222 South Riverside Plaza, Suite 820 Chicago, IL 60606 Telephone: 312-575-0200 Fax: 312-575-0300



Quarterly Monitoring Report 3rd Quarter 2001

L.E. Carpenter & Company
WHARTON, NEW JERSEY
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Nicholas J. Clevett

Project Manager

James J. Dexter, C.P.G.

Project Coordinator

RMI

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Table of Contents

1.0	INTI	RODUCTION	1
2.0	MON	NTHLY EFR ACTIVITIES	2
,	2.2	INTRODUCTION	3 4 4 4
3.0	QUA	RTERLY GROUNDWATER MONITORING	6
4.0	WAT	TER TABLE ELEVATIONS	8
5.0	SITE	INVESTIGATION AND REMEDIAL ACTIONS	10
	5.2 5.3	MW19/HOT SPOT 1 AREA GROUNDWATER DELINEATION	10 10
List	of Fig	gures gures	
Figu Figu Figu Figu Figu	re 2 re 3 re 4	Site Location Map Site Plan with Well Locations EFR Summary Figures Site Wide Shallow Aquifer Potentiometric Surface Map MW19/Hot Spot 1 Shallow Aquifer Potentiometric Surface Map	
List	of Tal	bles	
Tabl Tabl Tabl Tabl Tabl Tabl	e 2 le 3 le 4 le 5	Free Product Recovery Regional Apparent Free Product Trends Monthly Free Product Gauging Logs and Volumetric Extraction Calculations Current Quarterly Groundwater Monitoring Protocol Quarterly Groundwater Monitoring Data Quarterly Water Level Elevations	,
List	of Ap	pendices	
App App App	endix endix endix endix endix	B Apparent Free Product Volume Trend Charts C Monitoring Well Sampling Data D MW-22R and MW-25 Groundwater Concentration Trend Analysis	

Section 1 Introduction

RMT, Inc. (RMT), on behalf of our client, has prepared this Quarterly Monitoring Report for the L.E. Carpenter and Company (LEC) site ("the site" or "the subject site") located at 170 North Main Street, Wharton, New Jersey (Figure 1). Quarterly monitoring events are performed at the site to comply with paragraph 35 of the 1986 Administrative Consent Order (ACO) issued to LEC by the New Jersey Department of Environmental Protection (NJDEP). We provide a summary of activities completed during the third quarter of 2001, including routine quarterly groundwater monitoring and monthly free product recovery activities. In addition, this report includes summaries of additional site activities performed during third quarter of 2001, and activities scheduled for commencement during fourth quarter of 2001. We have certified this report in accordance with requirements outlined in N.J.A.C 7:26E-1.5 (Appendix A).

RMT conducted the following tasks during the third quarter of 2001:

- Monthly mobile free product recovery using enhanced fluid recovery (EFR) techniques in accordance with the NJDEP approval letter dated August 20, 1997 (Ref. Section 2).
- Quarterly groundwater monitoring as required under the ACO (Ref. Sections 3 and 4).
- Began preparing a response to agency comments dated August 23, 2001 regarding the document entitled <u>Workplan for Supplemental Investigation of Natural Attenuation of Dissolved Constituents in Groundwater</u> (RMT, May 2001). A final response will be provided for agency review and approval during fourth quarter 2001 (Ref. Section 5).
- Began preparing a response to agency comments dated August 23, 2001 regarding the document entitled <u>Enhancement of Free Product Recovery</u> (RMT, May 2001). A final response will be provided for agency review and approval during fourth quarter 2001 (Ref. Section 5).
- Received agency comments dated August 23, 2001 regarding the document entitled
 <u>Revised Workplan for Delineating and Characterizing Elevated Lead Concentrations in
 <u>Soil</u> (RMT, May 2001). A final response dated September 4, 2001 to the abovementioned agency comments was submitted for review. RMT and LEC are anticipating
 final agency approval and commencement of field activities for this work scope during
 fourth quarter 2001 (Ref. Section 5).
 </u>
- Installed, developed, sampled and surveyed monitoring well MW19-9D in the MW19/Hot Spot 1 area to further delineate shallow groundwater impacted with dissolved phase benzene, toluene, ethylbenzene, xylenes (BTEX) and DEHP constituents (Ref. Section 5).

We provide a discussion of these activities in the referenced sections.

Section 2 Monthly EFR Activities

2.1 Introduction

In August 1997, the NJDEP approved the Remedial Action Plan (RAP) which described free product removal using enhanced fluid recovery (EFR) for the eastern portion of the subject site (east of the railroad right-of-way). EFR is conducted by applying a vacuum to product recovery wells to primarily remove free phase product, in addition to limited volumes of contaminated groundwater and contaminant vapors within vadose zone and capillary fringe soils. As the result of increased aeration, this procedure enhances any natural biodegredation that may be occurring in the soil and groundwater. The locations of the twenty-eight (28) EFR wells purged during each monthly EFR event and all groundwater monitoring wells are shown in Figure 2.

RMT arranged performance of three monthly EFR events during the third quarter of 2001 on July 27, August 24 and September 25, 2001. RMT coordinated measurement of the free product thickness in each recovery well (where applicable), followed by EFR. RMT's subcontractor, CEMCO, used the recorded free product measurements to determine the placement of the drop pipe that maximized free product recovery volumes. Table 1 lists apparent free product thickness measurements recorded during third quarter 2001. Severn Trent Services (groundwater monitoring subcontractor and certified laboratory) observed a measurable thickness of free product in 11 of the 72 locations monitored on July 24, 2001. Table 1 also provides a cumulative breakdown of EFR specific information such as minimum and maximum free product thickness levels (in feet), associated waste management costs, and extracted product (liquid and vapor phase) and groundwater volumes (in gallons) to date.

During third quarter 2001, EFR activities were conducted utilizing a Nortech, Inc. 55B vacuum head apparatus capable of producing a vacuum of 17-inches of mercury (in Hg) at 100 cubic feet per minute (cfm). This unit is connected to a fitted 55-gallon drum, and braced to a mobile 4-wheel drive vehicle. When compared to the previously utilized vacuum trucks, use of this system has enabled CEMCO to get closer to each individual EFR well head, minimizing potential losses in the system previously experienced due to the use of greater lengths of extraction hose, while maximizing the maneuverability of the drop pipe. Use of this system has also resulted in a more efficient EFR event, minimizing the volume of groundwater extracted. The average ratio of extracted groundwater to free product during the third quarter of 2001 was approximately 0.077 gallons/gallon. Before use of this method (November 1997 to December 1999), the ratio of extracted groundwater to free product was 4.7 gallons/gallon. During the

2

September 25, 2001 EFR event, wells #13, 17, and 21 were found damaged beyond EFR capability. So these wells were vacuumed manually. Depth-to-water and depth-to-product readings were taken from the highest part of the remaining casing. These EFR wells will be repaired during fourth quarter 2001.

Once the extraction apparatus is full (approximately 55-gallons), the free product and limited volume of groundwater are transferred to the on-site 550-gallon aboveground storage tank (AST) equipped with secondary containment for satellite storage. The fluids generated during EFR events, including purged groundwater generated during groundwater monitoring activities, are transported off-site by Clean Venture, Inc. (US EPA ID No. NJ0000027193) and managed by Cycle Chem, Inc. (USEPA ID No. NJD002200046) at their facility located in Elizabeth, New Jersey. During third quarter 2001, 415 gallons of waste fluids were transported off-site (August 8, 2001). The 415 gallons accounted for extracted volumes accumulated on-site from EFR events conducted in May, June and July 2001. The total fluid disposal volume consisted of approximately 112 gallons of free product, 7 gallons of groundwater resulting from free product extraction, and 296 gallons of groundwater generated during monitoring well purging activities and development of a new well in the MW19/Hot Spot 1 area (Ref. Section 5).

2.2 Apparent Free Product Trends

The following sections describe apparent product trends in the western, western-central, eastern-central, and eastern portions of the historic free product area. Apparent product refers to a volume (in gallons) of free product occupying the casings of each EFR well. Total apparent free product represents the sum of product volumes from each EFR well within each of the four segregated regions.

The apparent product thickness is not representative of the actual free product thickness or volume that exists within the formation. RMT previously evaluated actual free product thickness and volume in our report entitled <u>Free Product Volume Analysis</u> (May 2000). That report estimated a total volume of recoverable free product actually present in the subsurface at 8,000 gallons. To facilitate description of the current distribution of free product, the zone of free product occurrence has been divided into four sub areas. These four areas from west to east are:

2.2.1 Western Region of Free Product

In the western portion of the free product area (EFR wells 1, 2, 3, 17, 18, 20, 21, and 28), there was a decrease in the total volume of apparent free product measured during the

3

third quarter of 2001. Apparent total free product volume decreased from 6.47 gallons in June 2001 to 4.5 gallons in September 2001. Free product thickness in most wells decreased during the third quarter, while thickness values at EFR Well 3 remained consistent with second quarter results. In general, apparent free product volume in the western region appears to be generally decreasing (see Appendix B).

2.2.2 Western-Central Region of Free Product

In the western-central portion of the free product area (EFR wells 4, 5, 6, 7, 19, 22, 23, 24, 25, 26, and 27), the total volume of apparent free product increased from 2.69 gallons in June 2001 to 3.47 gallons in September 2001. During third quarter, free product thickness values were consistent with second quarter results and historical results prior to first quarter 2001. In general, apparent free product volume in the western-central region appears to be decreasing (see Appendix B).

2.2.3 Eastern-Central Region of Free Product

The total volume of apparent free product increased slightly in the eastern-central portion of the free product area (EFR wells 8, 9, 10, 11, 12, and 13) during third quarter 2001. Apparent free product volume increased from 4.09 gallons in June 2001 to 4.71 gallons in September 2001. In general, the apparent free product volume in the eastern-central region appears to be decreasing (see Appendix B).

2.2.4 Eastern Region of Free Product

During third quarter 2001, free product was not detected in the eastern portion of the free product area (EFR wells 14, 15, and 16).

2.2.5 Site Total Apparent Free Product Area

The total apparent free product volume on the site, accounting for all 28 EFR wells, decreased over the course of the third quarter from 13.25 gallons in June 2001 to 12.69 gallons in September 2001. With the exception of first quarter 2001, the total apparent free product trend chart indicates a steady decrease in the volume of apparent free product existing on-site throughout the use of the monthly EFR (21.60 gallons in November 1997 to 12.69 gallons in September 2001). A cumulative breakdown of free product thickness and apparent free product volumes specific to each region is presented in Table 2. Additionally, trend charts for each of the four free product regions, and for the site as a whole, that graphically display apparent free product

volume fluctuations over time are presented in Appendix B. Figure 3 shows isothickness contours and the lateral extent of apparent free product on-site during 3rd quarter 2001. This figure incorporates the apparent free product thickness measurements from the groundwater monitoring event conducted by Severn Trent Services on July 24, 2001, and the pre EFR event measurements obtained by CEMCO on July 27, 2001.

2.3 Recovered Free Product Volume Estimations

After the completion of each EFR event, the total volume of extracted fluid was determined by gauging the 55-gallon vacuum head drum previously mentioned in section 2.1 with an oil/water interface probe. The drum was allowed to stabilize for one hour prior to gauging to allow for separation of emulsified product resulting from aggressive recovery. Gauging was conducted on a level surface and recorded thicknesses were converted to volumes based on a conversion of 1.65 gallons per inch of fluid thickness in the 55-gallon drum. Recovered liquid free product volume was determined by subtracting the volume of water from the total fluid volume collected in the 55-gallon drum. Vapor phase product volume was estimated based on vacuum head airflow (in cfm) and vented contaminant concentrations (in ppm) obtained during extraction at each EFR well. The volume (combined liquid and vapor phase) of free product extracted during each month's EFR event is presented in Table 3.

The total extraction volume (measurable free product, product vapor, and groundwater) during third quarter 2001 was 112.53 gallons. Approximately 105.92 gallons were measurable free phase product as determined by vacuum head drum gauging and vapor phase volume calculations, and 6.61 gallons were groundwater. Since initiation in December 1997, site EFR activities have removed approximately 14,297 gallons of total fluids, of which, approximately 3,188 gallons were measurable free phase product. Therefore, approximately 4,812 gallons of recoverable free product remains in the ground. Reference Table 1 for a complete breakdown of EFR related information.

Section 3 **Quarterly Groundwater Monitoring**

Groundwater monitoring activities were conducted on July 24th, 2001, in accordance with the procedures contained in the NJDEP's Field Sampling Procedures Manual dated May 1992. Monitoring wells MW-4, MW-11D(R), MW-14I, MW-15S, MW-15I, MW-21, MW-22(R), and MW-25(R) were purged utilizing a peristaltic pump to remove at least three well volumes prior to sampling. During the well purge process, indicator parameters were monitored and recorded so that a representative sample of the formation water was collected for analysis. Monitoring well sample data for third quarter 2001 is presented as Appendix C. Once the wells were purged, samples were collected using Teflon coated plastic bailers. Monitoring wells were sampled and analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX) and bis (2-ethylhexyl) phthalate (DEHP) per the current groundwater monitoring protocol presented as Table 4. Locations of the quarterly monitoring wells are shown on Figure 2.

A sample duplicate, a field blank and a trip blank were collected to satisfy quality control requirements. The trip blank was prepared by the laboratory and remained with the sample containers until the samples were returned to the laboratory. The duplicate was collected from monitoring well MW-25(R) (duplicate sample No. MW-25D) and analyzed for DEHP. The field blank was collected by pouring distilled water through a Teflon coated bailer to verify that the field equipment was not adversely impacting the samples and decontamination procedures were adequate. Any sampling equipment used at each well was decontaminated prior to each use utilizing a soap and water wash and distilled water rinse.

STL sampled MW-22(R) (along with a trip blank and field blank) for DEHP on July 26, 2001 as this analysis was inadvertently missed during the July 24th event. DEHP was detected in the field blank from the July 26th sampling event (1.2 μ g/L) potentially indicating poor field decontamination procedures. STL was advised of the situation and instructed to take greater care when decontaminating sampling equipment between wells to avoid cross-contamination.

The results of the chemical analyses were compared to New Jersey Class IIa Groundwater Quality Standards (NJGWQS). The presence of BTEX and DEHP was not detected at concentrations above NJGWQS in samples collected from MW-4, MW-11(DR), MW-14I, MW-15S, MW-15I, MW-21, MW-25(R) and duplicate MW-25D. At MW-22(R), ethylbenzene, total xylenes and DEHP were detected at concentrations of 1,100 μ g/L, 5,300 μ g/L, and 8,200 μ g/L respectively. All three of the contaminant concentrations detected at MW-22(R) exceed each of the corresponding NJGWQS.

Even though contaminant concentrations at MW-22(R) have consistently exceeded NJGWQS, contaminant concentrations at downgradient monitoring location MW-25(R) have not exceeded NJGWQS since second quarter 1997, and contaminant concentration further downgradient at MW-21 have never exceeded NJGWQS since sampling began at this location in first quarter 1999. We will continue to closely monitor the contaminant concentration-trend at all three locations. Concentration trends for contaminants of concern detected at MW-22(R) and MW-25(R) are presented as Appendix D.

Agency comments outlined in the NJDEP letter dated April 5, 2001 regarding their review of the 4th Quarter 2000 Monitoring Report (RMT, February 2001) requested that MW-11D(R) remain incorporated in the quarterly monitoring protocol; however groundwater collected from this location will continue to be analyzed for DEHP only. RMT has summarized the historical groundwater monitoring data, including the results from the third quarter 2001 sampling event, on Table 5. We have included the corresponding analytical laboratory reports in Appendix E. Severn Trent Services of Edison, New Jersey (STL-Edison) performed all site sampling activities and laboratory analyses.

Section 4 Water Table Elevations

On July 24, 2001, STL-Edison measured static groundwater levels from 72 different locations throughout the site (not including the EFR wells). RMT used these data to calculate groundwater elevations and evaluate the groundwater flow pattern in the shallow aquifer system (see Table 6).

Figure 4 displays the site-wide shallow groundwater equipotential surface, and indicates that groundwater flow direction in the shallow aquifer east of the rail spur is similar to that observed historically (generally toward the east). Also exhibited in Figure 4 are the effects caused by the presence of the drainage ditch. The drainage ditch acts as a local groundwater "sink", and shallow groundwater from a large portion of the site seeps into the drainage ditch. Shallow groundwater from the southern edge of the property flows eastwards, parallel to the Rockaway River and off-site towards the Wharton Enterprises property

Figure 5 displays the elevations of the water-table surface in the MW19/Hot Spot 1 area (northwest corner of the subject site). We include each specific measured groundwater elevation and show it next to each of the wells. The data show that groundwater flow direction in the shallow aquifer underlying this area is generally towards the east-northeast and is predominantly driven by recharge from Washington Forge Pond. Elevations measured in wells MW19-8, MW19-7, MW19-6, and MW19-2 control the bending of the contours where they are roughly perpendicular to the regional interceptor sewer that is located under Ross Street. This supports data that show the regional sewer line intercepts and locally controls shallow groundwater flow. The pattern of groundwater flow in this area has remained the same throughout 2000 and 2001, including during periods of seasonal groundwater elevation fluctuations.

The potentiometric surface contours shown on Figure 4 and 5 were generated using the SURFER 7.00 contouring software program (Golden Software Inc., 1999). These contours are termed potentiometric surface, as opposed to groundwater surface contours because they take into account the presence of free product. Contours were generated from a uniform grid created using the Least Curvature Method, which is a statistical method available within the SURFER package. This method attempts to generate a surface that minimizes areas of sharp curvatures. Parameters used as part of the surface generation routine include an internal tension parameter of 0.1, a boundary tension parameter of 0.4, and an R-value of 0.0008.

The potentiometric surface contours were generated using the measured fluid level elevations in site shallow wells. Some shallow well fluid elevations were not used to generate these contours because the observed values appeared to be in error, specifically, many of the wells denoted as "well points". These fluid elevations were combined with head values for the Rockaway River, the drainage ditch and the Washington Forge Reservoir. Potentiometric values for the drainage ditch and the reservoir were held at constant values of 624.48 and 639.51ft above mean sea level respectively. The head values for the Rockaway River were calculated to correspond to the average linear gradient observed along the river during current and past sampling events. An average gradient of 0.00489 ft/ft was used for these calculations in place of a measured gradient due to the absence of data from the SG-R3 location, which was inaccessible during the 3rd quarter event. Head values along the river were generated by projecting this gradient upstream and downstream of the SG-R2 location, which had a measured head value of 626.19 ft above mean sea level.

Section 5 Site Investigation and Remedial Actions

The following section briefly outlines additional activities and scopes of work performed at various on-site areas of environmental concern during third quarter 2001, and summarizes future activities associated with each area.

5.1 MW19/Hot Spot 1 Area Groundwater Delineation

Monitoring well MW19-9D was installed, developed, sampled and surveyed during third quarter 2001. Documentation of these activities, sampling results, conclusions and recommendations will be provided under separate cover during fourth quarter 2001.

5.2 Free Product

Final agency comments dated October 13, 2000 regarding the <u>Workplan to Evaluate Additional Technologies to Enhance On-Site Free Product Recovery</u> (RMT, Inc., August 15, 2000) have been received. RMT, on behalf of LEC, submitted the document entitled <u>Enhancement of Free Product Recovery</u> (RMT, May 24, 2001) that proposed the concept of a recovery trench for installation in the free product area to expedite recovery. Agency comments dated Aug 23, 2001 regarding the above-mentioned workplan have been received. RMT, on behalf of LEC, will provide a response to all agency comments under separate cover during fourth quarter 2001.

5.3 Lead Soils

Final EPA comments dated December 21, 2000 regarding the Workplan for Delineating and Characterizing Elevated Lead Concentrations in Soil (RMT, Inc., September 6, 2000) have been received. RMT, on behalf of LEC, submitted the document entitled Revised Workplan for Delineating and Characterizing Elevated Lead Concentrations in Soil (RMT, May 2001) to address the December 2000 agency comments. Agency comments dated Aug 23, 2001 regarding the May 2001 revised workplan have been received. RMT, on behalf of LEC, submitted a letter dated September 4, 2001 addressing the August 23, 2001 agency comments. RMT and LEC anticipate approval and initiation of field activities to perform this work scope during fourth quarter 2001. This work scope needs to be approved and accomplished prior to the winter season, as excessive snow cover will make both the stratigraphic and other field

10

visual evaluations extremely difficult. Subsequently, if this scope is not performed before the first significant snow event, a spring mobilization date is anticipated.

5.4 Monitored Natural Attenuation (MNA)

RMT, on behalf of LEC, continued the evaluation of MNA as a viable remedial alternative to *ex situ* bioremediation and re-infiltration (1994 Record of Decision Alternative No. 4). RMT submitted a report entitled Evaluation of Remediation of Groundwater by Natural Attenuation (May 2000) concluding that natural biodegradation of contaminants of concern (COCs) is occurring. As a result of the discussions during the August 4, 2000 conference call between LEC, RMT and the agencies, and the results of the above-mentioned report, RMT proposed the continued evaluation of MNA as a viable remedial alternative in the document entitled Workplan for Supplemental Investigation of Natural Attenuation of Dissolved Constituents in Groundwater (RMT, May 2001). Agency comments dated Aug 23, 2001 regarding the above-mentioned workplan have been received. RMT, on behalf of LEC, will provide a response to all agency comments under separate cover during fourth quarter 2001.

Table 1 L.E. CARPENTER - Wharton, New Jersey

Free Product Recovery - EFR Well # 1 - 28

Well No.	Development November 21, 1997 Feet of Product	December 9, 1997 Feet of Product	EFR #2 January 7, 1998 Feet of Product	EFR #3 January 22, 1998 Feet of Product	EFR #4 February 17, 1998 Feet of Product	EFR 03 March 13, 1998 Feel of Product	EFR #6 March 27, 1998 Feet of Product	EFR #7 April 24, 1998 Feet of Product	EFR #8 Niay 29, 1998 Feet of Product	EFR #9 June 30, 1998	EFR #10 July 31, 1998	EFR #11 ¹⁶ , August 24, 1998	EFR #12 September 17, 1998	EFR #13 October 22, 1998	EFR #14 November 20
EFR-1 EFR-2	1.64	1.53	1.94	0.36	2.48	0.93	0.94	1.42	1.55	Feet of Product 2.11	Feet of Product	Feet of Product	Feet of Product	Feet of Product	Feet of Proc
	1.55	1.50	1.86	0.06	2.20	2.96	2.92	2.65	2.44	1.78	1.12	1.22	1.71	1.59	1.71
EFR-3	0.85	1.02	1.27		1.58	1.19	0.03	0.24	0.19	0.77		1.09	1.21	1.29	1.51
EFR-4	1.03	2.27	0.54	0.07	0.30	-		-		0.03	0.72	0.93	1.03	1.01	1.19
EFR-5	4.03	3.74	4.25	0.32	3.29	3.39	1.71	2.71	2.02	+	0.38	1.23	2.40	2.17	1.75
EFR-6	0.72	1.00	1.24		2.27	1.71	1.17	223	1.55	1.86	2.38	2.52	2.33	2:52	2:19
EFR-7	0.17	0.09	0.16			-	· · · · · · · · · · · · · · · · · · ·			1.56	1.96	1.56	1.42	1.25	1.29
EFR-8	0.00	0.00	0.00		0.08			<u> </u>		0.02	0.02	0.03	0.07	0.05	0.20
EFR-9	0.00	1.10	1.79	1.15	0.16	3.08			-	0.03	0.04	0.08	0.13	0.09	0.07
EFR-10	5.20	5.80	6.42	2.34	7.47		0.08	0.07	0.11	0.29	0.61	0.98	1.23	1:31	1.26
EFR-11	3.07	4.04	4.28	5.64		7.06	6.05	6.71	5.47	5.68	4.94	4.52	4.34	4.38	3.98
EFR-12	0.04	0.03	0.00	5.04	4.47	4.32	4.67	5.91	5.73	6.08	4.73	4.47	3.95	4.06	3.65
EFR-13	0.48	0.56	1.33		0.07	<u> </u>	-		0.02	0.28	0.22	0.28	0.24	0.15	0.29
EFR-14	0.10			0.05	1.28	1.07	1.07	0.67	_	6.90	0.56	0.48	0.66	0.82	+
EFR-15		0.16	0.00	-				_				0.40			1.13
	0.09	0.12	0.27		0.06	-				0.03	0.02	 	0.00	0.00	0.00
EFR-16	0.00	0.00	0.00		-	_	_				0.02	0.03	0.03	0.12	0:12
EFR-17	9.04	0.17	1.56	0.39	0.17	0.08		0.09				-	0.00	0.00	0.00
EFR-18	0.10	0.10	0.09							0.02	0.37	0.29	0.46	0.56	0.71
EFR-19	0.54	2.80	1.89	0.49	1.95				<u> </u>	0.01	0.08	0.14	0.48	0.68	0.98
EFR-20	0.40	0.34	0.95	0.47		1.63	1.44	0.88	0.65	0.42	0.90	1.26	1.68	1.95	2.31
EFR-21	2.36	2.40	2:71		0.27		-	0.04	0.24	0.37	0.65	0.63	0.79	1.24	1.85
EFR-22	3.78	4.10		2.74	2.74	4.14	3.97	4.23	3.98	3.29	1.97	1.87	1.86	1.77	
EFR-23	0.00		0.05	4.81	3.40	4.69	3.42	1.82	1.22	0.96	2.86	2.87			1.67
EFR-23 EFR-24		0.06	0.06		0.02	-	-			0.05	0.11	0.08	2.97	2.83	2.58
	0.00	0.00	0.00		-	-				- 0.03			0.27	1.03	3.03
EFR-25	2.95	3.00	3.55	0.26	4.15	3.11	0.72	0.82	0.79		4.70		0.00	0.03	0.13
EFR-26	2.20	2.05	2.66	.0.29	2.30	2.12	1.43	1.32		0.78	0.60	0.41	0.29	0.41	1.33
EFR-27	0.15	0.02	2.71	0.02	0.74				1.95	1.21	2.06	1.58	1.17	1.24	1.08
EFR-28	2.20	2.30	1:78	0.48	2.60	3.20		0.03		0.02	0.33	0.45	1.49	0.54	04
MIN (ft)	0.00	0.00	0.00	0.02	0.02		3.48	4.40	3.16	2.61	1.47	1.73	1.69	1.83	17
MAX (ft)	5.20	5.80	6.42			0.08	6.03	0.03	0.02	0.01	0.02	0.03	0.03	0.03	0.0
Average (ft)	1.20	1.44		5.64	7.47	7.06	6.05	6.71	5.73	6.08	4.94	4.52	4.34	4.38	
Total Free Product (ft)	33.69		1.55	1.17	1.92	2:79	2.21	2.01	1.94	1.25	1.22	1.23	1.36		3.9
		40.30	43.36	19.94	44.05	44.68	33.10	36.24	31.07	31.16	30.38	30.73		1.34	14
Total Standing Free Product Volume (gal)	21.60	25.83	27.79	12.78	28.24	28.64	21.22	23.23	19.92	19.97	19.47		33.90	34.92	38.3
ated Total Free Product Removed (gal) (1) (Liquid and Vapor Phase Free Product Volume)	315.00	250.00	210.00	80.00	120.00	130.00	100.00	110.00	95.00	105.00	76.00	19.70 55.00	60.00	22.70 15.00	24.9 25.0
mated Total Fluids Removed (gal) (Liquid Phase Free ct Volume plus Grounitwater Extraction Volume) as of Jan 2000															22.00
oor Phase Free Product Extraction Volume (gal) as of Jan 2000															
uid Phase Free Product Extraction Volume (gal) as of Jan 2000															
ndwater Extraction Volume (gal) per each EFR Event (⁷⁾ as of Jan 2000															
tal EFR Extraction Volume (gal) (Total Volume: free product + groundwater + product vapor)	2350.00	1410.00	376.00	256.00	314.00	300.00	339.00	403.00	390.00	561.00	211.00	220.00	329.00	212.00	120.00
stimated Volume Removed Resulting from Drum Purging (GW purge water) if applicable (9)	-		-	-	-	338	150	600	70	110	71		110	-	-
otal Volume Removed from Site (gal) (Manifested volume) ⁽⁸⁾	2,350	1,410	376	256	314	638	489	1,003	460	671	282	220	439	212	120
Cumulative Total Free Product Removed (gal)	315	565	7 75	855	975	1,105	1,205	1,315	1,410	1,515	1,591	1,646	1,706	1,721	1;746
Extraction, Transportation & Disposal Cost ⁽²⁾	\$ 3,976.37	5 2,742.62	\$ 1,130.50	\$ 1,130.50	5 1,219.12	\$ 1,431.87	\$ 1,541.31	\$ 2,038.43	\$ 1,240.75	\$ 1,347.68	\$ 1,324.62	S 1.838.93	120216		
Unit Cost per gal ⁽³⁾	\$ 1.69	\$ 1,95	\$ 3.01	\$ 4.42	\$ 3.88	\$ 2.24									•
	gal — gallon All EFR Wells are 4 inch is EFR events 13 and 14 pro as the result of a short vac Product removal estimate	duct removal was low du truck standing time prio does not take into accou	e to significant quantities r to gauging		nulsified agitation	(2) Total Invoiced dispose (3) Total Cost per gallon: (4) EFR # 11 free produc (5) EFR # 23 cost and un (6) Free product stored in	al cost for EPR event (proc includes product transpos t volume was 55 gal and o it cost higher than normal n an on-site 550-gaillon AS ster collected during each	iuct and groundwater) ar tation & disposal, manife contained PCBs (approx. due to additional vac tru T equipped with seconds EFR event. Volume estin	ad monitoring well purge of prep, & regulatory adm weight 450lbs total @ spe ck trans and mob time. / ary containment. AST cor nated using an oil/water	a EFR Event and vapor mo water from 1/4ly well de nun. fee for combined EFR cific gravity of 8.18 lbs/gr as the vac truck was broke tents, along with grounds interface probe on the 55-	initoring during extractivelopment and monitor and GW purge water v. il). Disposal costs were : water it reached the si water resulting from well	on (See Table 3) ing activities (if applicable) ohumes (if applicable) significantle	PCB content upplied to next months EF	27454	

Table 1 L.E. CARPENTER - Wharton, New Jersey

Free Product Recovery - EFR Well:	# 1	- 28
21211011		20

Well No.	December 18, 1998					1 .	EFR 921	EFR #22	EFR 423 ⁽⁵⁾	EFR #24	EFR #25	EFR 026		T			
	Feet of Product	January 13, 1999 5 Feet of Product	February 18, 1999 Feet of Product	March 24, 1999 Feel of Product	April 19, 1999 Feet of Product	May 18, 1999	June 22, 1999	July 28, 1999	August 27, 1999	September 22, 1999	October 27, 1999	November 30, 1999	EFR 927	EFR #28	EFR #29	EFR #30	EFR #31
EFR-1	1.57	0.53	1.79	3.68	1.13	Feet of Product	Feet of Product	Feet of Product	Feet of Product	Feet of Product	Feet of Product	Feet of Product	December 16, 1999 Feet of Product:	January 28, 2000	February 18, 2000	March 24, 2000	April 19, 200
EFR-2	1.41	0.95	1.40	2.42	1,46	1.22	0.92	149	1.27	1.94	1:63	1.47	1.20	Feet of Product	Feet of Product 0:85	Feet of Product	Feet of Produ
EFR-3	1.18	1.14	1.01	1.63	0.36	0.25	0.86	1.21	1.00	0.63	1.35	1.28	1.40	0.06	1.04	2.25	1.59
EFR-4	1:79	0.73	0.10	0.14	0.08	0.05	0.03	0.88	1.03	0.74	0.69	0.47	0.02	0.51	0.07	0.08	0.09
EFR-5	2.28	2.68	3.47	6.15	2.65	2.61	2.66	2.66	0.99	0.51	0.11	0.03	0.58	0.51	0.48	0.11	0.11
EFR-6 EFR-7	1.38	0.49	0.84	0.88	0.61	1.07	1.16	1.51	1.57 0.91	1.77	3.23	2.99	1.27	2.95	2.46	2.91	2.54
EFR-8	0.16	0.02	0.04	0.04	0.07	0.02	0.08	0.28	0.91	0.15	0.86	0.63	0.33	1.07	0.77	0.29	0.31
EFR-9	0.03	0.12	0.00	0.03	0.03	0.03	0.09	0.39	0.05	0.01	0.07	0.04	0.47	0.15	0.02	0.35	0.01
EFR-10	1.86	0.74	0.49	0.06	0.11	0.32	0.49	1.16	0.56	0.09	0.13	0.05	0.11	0.05	0.06	0.08	0.03
EFR-11	3.99 3.52	3.65	5.79	5.52	4.97	4.23	3.71	3.63	2.47	0.41	0.28	0.10	0.15	0.13	0.08	0.19	0.02
EFR-12	0.17	2.42	4.69	2.84	2.02	2.48	3.28	2.78	1.57	3.02 1.93	5.18	3.95	3.07	4.50	3.55	3.50	4.50
EFR-13	1.30	0.04	0.11	0.05	0.02	0.02	0.10	0.30	0.20	0.03	3.20	3.11	1.07	3.44	4.95	2.41	2.95
EFR-14	0.00	0.22	1.19	0.15	0.49	0.50	0.44	133	1.01	0.74	0.09	0.67	0.01	0.03	0.49	0.46	0.10
EFR-15	0.32	0.11	- 0.00	· · · · · · · · · · · · · · · · · · ·	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.26	0.36	0.34	0.48	0.17
EFR-16	0.00	0.00	0.07	0.01	0.01	0.00	0.00	0.00	0.13	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00
EFR-17	0.53	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.02	0.02	0.02	0.02	0.02
EFR-18	1.05	0.56	0.08	0.06	0.06	0.08	0.12	0.39	0.36	0.10	0.06	0.00	0.00	0.00	0.00	0.00	0.00
EFR-19	2.44	1.83	0.11		0.06	0.16	0.46	0.96	1.37	0.61	0.36	0.24	0.25	0.11	0.32	0.04	0.16
EFR-20	211	0.65	1.68	0.52	0.44	0.52	1.10	2.05	2.02	0.51	1.54	0.77	0.05	0.20	0.05	0.12	0.04
EFR-21	1.62	1.21		0.88	0.43	0.89	0.8.7	1.59	1.86	0.17	1.92	1.36	0.69	1.67	1.73	0.25	0.60
EFR-22	2.27	2.06	- 1.43 - 0.84	2.62	2.35	1.49	1.46	1.57	1.04	1:01	232	1:40	0.75	1.08	2.58	0.64	0.42
EFR-23	2.29	1.55	0.91	0.34	0.95	1.39	1.93	147	1.41	0.17	222	1.76	1:70	1.92	1.34	3.04	2.86
EFR-24	0.14	0.38	0.06	0.47	0,22	0.25	0.45	213	1.03	0.12	0.53	0.64	0.53	0.82	0.58	0.09	0.16
EFR-25	1.58	1.05	1.75	0.00 1.19	0.00	0.00	0.08	0.08	0.05	0.00	0.00	0.04	024	0.23	0.31	0.46	0.06
EFR-26	1:09	0.73	0.55	0.45	1.08	0.76	0.54	1.74	1.48	0.21	0.39	0.19	0.05	0.11	0.07	0.58	0.02
EFR-27	0:51	0.09	0.12	0.00	0.75	1.29	1.28	1.23	0.72	0:29	. 0.52	0.94	0.59	0.31	0.39	0.58	0 21
EFR-28	1.74	1.03	129	1:71	0.00	0.02	0.03	0.17	0.21	0.06	0.01	0.01	0.01	1:54	1.10	1:33	1.68
MIN (ft)	0.03	0.02	0.04	0.00	1.65	1.46	1.25	1.67	1.78	0.38	2.19	0.96	1.42	0.02	0.14	0.20	0.01
MAX (ft)	3.99	3.68	5.79	6.15	0.00 4.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,33	1:00	2.30	2 42
Average (ft)	1.48	0.97	1.25	1:22	0.79	4.23	3.71	3.63	2.47	3.02	5.18	3.95	3.07	4.50	0.00	0.00	0.00
Total Free Product (ft)	38.36	25.27	31.14	31.84	22.00	0:79	0.88	1.18	0.94	0.57	1.06	0.88	0.58	0.87	4.95 0.89	3.50	4.50
Total Standing Free Product Volume (gal)	24.93	16.43	- 20.24	20.70	14.30	22.20	24.54	33.11	26.36	15.94	29.68	24.59	16.37	2434	24.79	0.88	0.84
stimated Total Free Product Removed (gal) (Liquid and	*				14.30	14.43	15.95	21.52	17.13	10.36	10.29	15.98	10.64	15.82	16.11	24.62	23.38
Vapor Phase Free Product Volume)	5,1.00	23.00	. 74.00	40.00	59.24	47.20	38.51	54.48	36.00	1100				15.02	10:11	16.00	15.20
Estimated Total Fluids Removed (gal) (Liquid Phase Free			riseleleriden en sen						30,00	41.00	5 _{1.73}	41.79	49.34	43.52	51.66	48.14	45.46
roduct Volume plus Groundwater Extraction Volume) as of Jun.													*************				
2000																l	
														40.93	46.21	52.80	41.26
																	1
Vapor Phase Free Product Extraction Volume (gal) as of																	
Jan 2000															j		1
														6.35	7.93	10.19	5.85
																	3.03
Liquid Phase Free Product Extraction Volume (gal) as of																	
Jan 2000																	
														36.97	43:73	37.95	39.61
roundwater Extraction Volume (gal) per each EFR Event																	
⁽⁷⁾ as of Jan 2000																	
														3.96	2.43	14 55	1.65
Total EFR Extraction Volume (gal) (Total Volume: free	256.00	221.00							24222222222222222222222222								•
product + groundwater + product vapor)	230.00	234.00	498.00	683.00	904.76	360.00	564.26	725.54	298.00	239.00	245.00	****					
									270.00	27.00	265.00	249.07	350.00	47.48	54.14	62.99	47.11
Estimated Volume Removed Resulting from Drum	110	+	225	ì													
Purging (GW purge water) if applicable 199	110	- 1	235	-	139	-		374			1						
									,		199	82			357	7	
Total Volume Removed from Site (gal) (Manifested	256	l															
volume) ⁽⁶⁾	256	234	- 733	683	1;044	360	564	1,100	298	220		1					
									270	239	464	331	350		538	3	
Cumulative Total Free Product Removed (gal)	1.70-	1															
rotal Free Froduct Kemoved (gal)	1,797	1,820	1,894	1,934	1,993	2,040	2,079	2.133	3,00		<u> </u>			T		T	
				·			e/e/ /		2,169	2,213	2,268	2,313	2,362	2.406	2,457	2,506	2,551
Extraction, Transportation & Disposal Cost ⁽²⁾															1		*12-5
The property of Dishorat Cost.	973.00	1,156.62	, ,,,,,		. [ı	İ	ŀ				·······················		
11.10	27.500 3	1,156.62	1,641.56	\$ 1,703.44	5 2,049.75	5 930.31	\$ 1,598.13	\$ 2,165.75	\$ 2,162.12	\$ 995.81	\$ 1,288.50	\$ 1,028.93		5			1,04
Unit Cost per gal ⁽⁵⁾	3.80	4.94			ĺ						2,200.30	1,020.73	\$ 968.87	 -			
		. 49411	2.24	\$ 249	1.96	\$ 2.58	\$ 2.83	5 1.97			- 1		i				

Table 1 L.E. CARPENTER - Wharton, New Jersey Free Product Recovery - EFR Well # 1 - 28

Martin M	EFR Event Date	EFR #15	EFR #16	EFR ♦17	700 244	т	·											
Property of the property of	. Wall No	December 18, 1998	January 13, 1999 3		EFR #18 March 24, 1999	EFR #19 April 19, 1999	EFR #20 May 18, 1999	1	L .	1			EFR #26	EFR 927	EFR #28	FFP 429	I EEN AAA	
Fig. Property P					Feet of Product								November 30, 1999			1		1
The content of the																		
Control Cont								0.92										
Mary	EFR-4								0.88								2.25	
The content of the	EFR-5								0.44	0.99							0.08	0.09
Mary		1.38							2.66	1.57								0.11
100		0.16								0.91								2.54
State 15		0.03								0.05	0.01							0.31
1		1.86	0.74								0.09							
Mary			3.68								0.41	0.28						
10			2.42									5.18						
Property			0.04	0.11								3.20						
Property				1.19	0.15								0.67					
Property					·	0.00							0.57	0.26				
Property 1					0.01	0.01								0.00				
Fig.						0.00	0.00							0.02				
Property of the color of the					0.06	0.06	0.08								0.00			
The column The															0.11			
1855							0.52								0.20	0.05		
Miles																1.73		
RESTRICT 15							1.49	1.46							1.08	2.58		
## PROPERTY OF THE PROPERTY OF																		
Process	EFR-24								213	1.03							0.09	0.16
HEAST 18 19 19 19 19 19 19 19 19 19 19 19 19 19																		0.06
Property		1.09								1.48	0.21							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		0.51	0.09								0.29							
MINION 10			1.03									0.01						
Mode Property Mode Mod				0.04								2.19	0.96					
Total Steel Per Confect (19 12 12 12 12 12 12 12 12 12 12 12 12 12				5.79	6.15								0.00					
The Standing For Product Submitted 1 19 19 19 19 19 19 19 19 19 19 19 19 1					1:22								3.95					
Estimated Tools From Volume (gal) (Total Volum	Total Standing Free Product Volume (ast)				31.84	22.00							0.88	0.58				
	Fetimated Total Company Destant Park (1977)	24.93	16.43	20.24	20.70	14.30								16.37	2434			
Since the control of	Ligar Phys. Few Partner List.	51.00	23.00	71.00	10.00				21.32	17.13	10.36	10,29	15.98	10.64	15.82			
Exercise 1 cold Placia Removed (gal) (gard place from Points (scale at ear) in 1900 and 1900		Tilana tara m ala ang katalana			40.00	59.24	47.20	38.51	54.48	36.00	44.00	54.73	4170	10.21				13.40
Companies Comp	Estimated Total Fluids Removed (gal) (Liquid Phase Free									Janii delegani, delegani	ing the state of t		,	47.54	43.52	51.66	48.14	45.46
Companies Comp	Product Volume pins Groundwater Extraction Volume) as of Jan														· · · · · · · · · · · · · · · · · · ·			
Vapor Phase Free Product Extraction Volume (gal) and fig. 2000 \$.	2000 :														40.93	4621		
1 1 1 1 1 1 1 1 1 1															10.75	40.21	52.80	41.26
1 1 1 1 1 1 1 1 1 1	Vapor Phase Free Product Extraction Volume (gal) as of																	
Liquid Phase Free Product Extraction Volume (gal) 45 of jan 2000 Groundwater Extraction Volume (gal) 75 of jan 2000 Total ER Extraction Volume (gal) 75 of Volume free product payrs and gall	Jun 2000															ľ		
Liquid Phase Free Product Extraction Volume (gal) gree of paragon															6.55	7.93	10.19	* **:
Groundwater Extraction Volume (gal) Per each EFR Event Purple 254.00 234.00 494.60 463.00 901.76 369.00 5641.86 72554 294.00 299.00 299.00 265.00 249.00 350.00 47.48 51.14 62.99 67.11 100 100 100 100 100 100 100 100 100	Liquid Phase From Pendant F														ĺ			3.03
Goundwaler Extraction Volume (gal) per each EFR Event (Paragraphy and plan 2000 256.00	In 2000																<u> </u>	
Groundwafer Extraction Volume (gal) per each EFR Even (Pas of jar 1920) Total EFR Extraction Volume (gal) (Total Volume free product reproduct seption) 10 23.00 49.00 49.00 90.176 30.00 90.176 30.00 90.176 20.00 29.00 29.00 29.00 29.00 29.00 20.00 29.00 20.00 47.45 \$1.14 \$5 \$1.14	jun 2000														i		1	
Total Februaria Volume (gal) (Total Volume (gal) (Manifested growth)) Estimated Volume Removed Resulting from Drum Purgling (GW purge water) flypitiothe Parallel (GW purge w	Groundwater Extraction Volume (ash asset asset														36.97	43.73	37.95	39.61
Total EFR Extraction Volume (gal) (Total Volume free product regron) 256.00 234.00 498.00 498.00 498.00 498.00 483.00 904.76 386.00	Placation 2000																	
Total Polume Removed from Size (gal) (Manifested rolume) fine	wa vy jun 2000														3.00		T	
Product *groundwater** product reproduct Resulting from Drum Purging (GV purge water) if applicable ** 110	Total EFR Extraction Volume (ext) (Table Volume														3.76	2.48	14.35	1.65
Estimated Volume Removed Resulting from Drum Purging (CW) purge watery if applicable 60 110 255 255 255 255 255 255 255 255 255 25	product + groundwater + product paper	256.00	234.00	498.00	683.00	001.70		ŀ					141414111111111111111111111111111111111					
Estimated Volume Removed Resulting from Drum Purging (GW purge water) if applicable 60 110 235 234 733 256 234 733 683 1.044 369 544 1.160 296 297 464 331 350 358 246 245 245 2.049 5 1.95 5 2.049 5 1.05 5	g promises vapor)				003.00	904.76	360.00	564.26	725.54	298.00	239.00	265.00	249.07	350.00	47.10	e		
Purging (GW purge water) if applicable 69 110 256 234 733 653 1.044 360 564 1.160 298 239 464 331 350 536 536 536 536 549 5 2.049 5 2.	Estimated Volume Removed Resulting from Drum														47.40	34.14	62.99	47.11
Total Volume Removed from Site (gal) (Manifested rolume) (h) 256 231 733 683 1.044 369 564 1.100 298 219 461 331 350 538 Cumulative Total Free Product Removed (gal) 1.797 1.820 1.894 1.934 1.934 1.934 1.934 1.935 2.040 2.079 2.133 2.169 2.133 2.169 2.213 2.268 2.313 2.268 2.313 2.362 2.406 2.437 2.506 2.551 2.5	Purging (GW purge water) if applicable (9)	110	.	235		130	i	i							····			
Total Volume Removed from Site (gal) (Manifested rolume) (8) 256 234 733 683 1.044 360 564 1.160 298 239 464 331 350 538 Cumulative Total Free Product Removed (gal) 1.797 1.820 1.894 1.934 1.934 1.935 2.040 2.079 2.133 2.169 2.213 2.268 2.313 2.362 2.406 2.457 2.506 2.551 Extraction, Transportation & Disposal Cost ⁽²⁾ 5 973.00 \$ 1.156.62 5 1.641.56 5 1.703.44 5 2.049.75 9 930.31 \$ 1.598.13 5 2.165.75 \$ 2.165.75 \$ 2.165.15 \$ 995.81 \$ 1.288.50 \$ 1.028.93 \$ 968.87 \$ 1.044 Unit Cost per gal ⁽³⁾ 5 3.80 \$ 4.94 \$ 2.224 \$ 2.24 \$ 2.24 \$ 2.49 \$ 1.96 \$ 2.55 \$ 2.55 \$ 2.55 \$ 2.15 \$ 2.				4	İ		•	•	374	•	-	199	82			157	•	
Tollimbe) (8) 256 234 733 663 1,044 360 564 1,160 298 239 464 331 350 358 Cumulative Total Free Product Removed (gal) 1,797 1,820 1,894 1,934 1,993 2,040 2,079 2,133 2,169 2,213 2,268 2,313 2,362 2,406 2,457 2,506 2,551 Extraction, Transportation & Disposal Cost ⁽²⁾ 5 973.00 5 1,156.2 5 1,641.56 5 1,703.44 5 2,049.75 5 993.31 5 1,598.13 5 2,165.75 5 2,165.75 5 2,165.75 5 2,165.75 5 2,165.75 5 1,265.95 5 1,265.95 5 965.87 5 1,044.95 1,044	Total Volume Removed from Site (gal) (Manifested															33/		
Cumulative Total Free Product Removed (gal) 1,77 1,820 1,894 1,934 1,934 1,993 2,040 2,079 2,133 2,169 2,213 2,169 2,213 2,268 2,313 2,362 2,406 2,457 2,506 2,551 2,501	volume) (8)	256	234	733	683	1.044	360	844	1 100]	-							
Cumulative Total Free Product Removed (gal) 1,77 1,820 1,894 1,994 1,994 1,993 2,040 2,079 2,133 2,169 2,213 2,169 2,213 2,268 2,313 2,362 2,406 2,457 2,506 2,551 Extraction, Transportation & Disposal Cost ⁽²⁾ 5 973.00 \$ 1,156.62 \$ 1,641.56 \$ 1,703.44 \$ 2,049.75 \$ 993.03 \$ 1,598.13 \$ 2,165.75 \$ 2,162.12 \$ 995.61 \$ 1,288.50 \$ 1,028.93 \$ 968.87 Unit Cost per gal ⁽³⁾ 5 3.80 \$ 4.94 \$ 2.22 \$ 2.24 \$ 2.24 \$ 2.24 \$ 2.24 \$ 2.45 \$ 2.55 \$								304	1,100	298	239	464	331	350		538		
Extraction, Transportation & Disposal Cost (2) S 973.00 \$ 1.15662 \$ 1.641.56 \$ 1.703.44 \$ 2.049.75 \$ 993.01 \$ 1.598.13 \$ 2.165.75 \$ 2.162.12 \$ 995.81 \$ 1.288.50 \$ 1.028.93 \$ 968.87 \$ 1.048.99 \$ 968.87 \$ 1.049.89 \$ 1.049.	Ctimulative Total Free Bendust Barrens I ()					1												
Extraction, Transportation & Disposal Cost ⁽²⁾ Unit Cost per gal ⁽³⁾ S 3.80 S 4.94 S 2.24 S 2.24 S 1.96 S 1.96 S 2.55	Cumulative Total Free Product Removed (gal)	1,797	1,820	1,894	1,934	1,993	2.040	2.079	1 122				i			_ · _ · _ · _ · _ · _ · _ · _ · _ · _ ·		
Extraction, Transportation & Disposal Cost ⁽²⁾ \$ 973.00 \$ 1.156.62 \$ 1.641.56 \$ 1.703.44 \$ 2.049.75 \$ 930.31 \$ 1.598.13 \$ 2.165.75 \$ 2.162.12 \$ 995.81 \$ 1.288.50 \$ 1.028.93 \$ 968.87 Unit Cost per gal ⁽⁵⁾ \$ 3.80 \$ 4.94 \$ 2.24 \$ 2.24 \$ 1.96 \$ 1.96 \$ 2.58 \$ 2.65 \$ 2							I	2,0//	2,133	2,169	2,213	2,268	2,313	2,362	2.406	2.457	2.506	7 551
S 973.00 \$ 1.1562 \$ 1.641.56 \$ 1.703.44 \$ 2.049.75 9 930.31 \$ 1.598.13 \$ 2.165.75 \$ 2.162.12 \$ 995.81 \$ 1.288.50 \$ 1,028.93 \$ 968.87 Unit Cost per gal ⁽⁵⁾ S 3.80 \$ 4.94 \$ 2.24 \$ 2.24 \$ 2.49 \$ 1.96 \$ 2.58 \$ 2.65 \$ 2.6	Extraction, Transportation & Diagnosal Cost(2)		T												1			2,331
Unit Cost per gal ⁽⁵⁾ 5 3.80 \$ 4.94 \$ 2.24 \$ 2.49 \$ 1.96 \$ 2.58 \$ 7.83 \$ 1.02 \$ 995.81 \$ 1.288.50 \$ 1.028.93 \$ 968.87	- I - I - I - I - I - I - I - I - I - I	973.00	\$ 1,156.60	1 441 62			. 1		1	ł	İ	T						
Sincost per gar \$ 3.80 \$ 4.94 \$ 2.24 \$ 2.49 \$ 1.96 \$ 2.58 \$ 2.83 \$ 1.96 \$ 2.58 \$ 2.83 \$ 2	Unit Cret race and (3)		***************************************	4,041.30	1,703.44	2,049.75	930.31	\$ 1,598.13	\$ 2.165.75	2,162.12	995.81	s 1,288.50	1.028.93	\$ 94.47				1,045.62
247 5 1.96 5 2.58 5 2.83 5 1.97 6 2.78 6	cost her Rut	3.80	\$ 4.94	224	امير ي		. ·		7					700.67	·····			
					2.49	1.96	2.58	\$ 2.83	5 1.97	7.26	\$ 4.17	s 2.78	3.11	5 2.77 5				

Table 1 L.E. CARPENTER - Wharton, New Jersey Free Product Parsonne FFD W. 11 44 25

		-	_	
Free Product Recovery -	THE	W7 11	44.4	~~
Tice Flounci Necovery -	r.rĸ	Well	#1_	7X
	~~	***	,, x -	20

EFR Event Date	EFR #32 May 18, 2000	EFR 033 June 16, 2000	EFR #34 July 18, 2000	EFR #35	EFR #36	EFR #37	EFR +38	EFR #39	EFR #40 ^(M)	EFR +41	EFR 942	T		_			
Well No.	Feet of Product	Feet of Product	Peet of Product	August 17, 2000 Feet of Product	September 18, 2000	October 25, 2000	November 17, 2000	December 15, 2000	March 15, 2001	April 23, 2001	May 25, 2001	EFR 043	EPR 044	EFR 945	EFR #46		
EFR-1	1.54	2.10	· 1.51	1.26	Feet of Product	Peet of Product	Feet of Product	Feet of Product	Feet of Product	Feet of Product	Feet of Product	J=ne 13, 2001	July 27, 2001	August 24, 2001	September 25, 2001		ł
EFR-2	1.64	1.89	1.40	0.36	1.08	1.00	1.07	1.14	2.91	1.25	1.02	Feet of Product	Feet of Product	Feet of Product	Feet of Product		Ì
EFR-3	0.62	1.02	0.25	0.02		0.97	1.09	0.76	2.92	2.66	1.75	2.26	0.57	0.80	1.29	_]	ļ
EFR-4	0.41	0.22	0.05	0.02	0.08	0.44	0.43	0.46	0.33	0.29	0.49		1.22	1.17	1.22	1	1
EFR-5	1.84	2.34	1.99		0.02	0.02	0.05	021	0.59	1.65	0.01	0.70	0.40	0.66	0.51	7	
EFR-6	0.49	0.27		1.69	1.57	2.74	2.47	2.76	5.95	1.75		0.44	0.02	1.86	0.11	7	1
EFR-7	0.02	0.00	0.54	0.29	0.55	0.83	0.79	0.96	2.05	0.32	1.90	0.62	2.24	2.05	2.25	7	
EFR-8	0.05		0.00	0.01	0.00	0.01	0.01	0.01	0.28		0.43	0.16	0.46	0.19	0.37	╡	
EFR-9	0.06	0.03	0.02	0.01	0.01	4.26	0.02	0.06	0.03	0.02	0.02	0.00	0.00	0.16	0.00	4	
EFR-10		0.06	0.12	0:16	0.08	0.02	0.50	0.77		0.05	0.04	0.03	0.01	0.18	0.00	4	ł
EFR-11	1.36	2.50	3.09	0.75	2.76	3.88	3.27		0.57	0.07	0.56	0.07	0.14	0.27	0.39	-∤	
	2.93	2.49	4.12	0.79	4.73	0.16	4.00	£05	5.64	3.17	3.52	3.32	3.73	2.30		4	
EFR-12	0.19	0.01	0.01	0.00	0.03	0.11		3.73	2.82	2.41	3.56	2:60	3.91	2.37	2.62	4]
EFR-13	0.69	0.55	0.73	0.49	0.22	0.25	0.04	0.02	0.07	0.02	0.25	0.01	0.01		3.86		i
EFR-14	0.00	0.00	0.00	0.00	0.00		0.09	0.15	1.14	0.27	0.78	0.26		0,23	0.00	J 법	1
EFR-15	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.4.7	0.38	GES	3
EFR-16	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.01	0.01	0.00		0.00	0.00	0.00	₹ .	₹ .
EFR-17	0.65	0.04	0.01		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7 😤	
EFR-18	0.32	0.01		0.02	0.09	0.06	0.36	0.01	0.41	0.31		0.00	0.00	9.00	0.00	AVERA	TOTALS
EFR-19	0.98	0.17	0.06	0.16	0.08	0.31	0.31	0.20	3.27		0.51	0.28	0.02	0.49	0.34	7 7	5
EFR-20	0.54		0.63	0.34	0.22	0.87	0.59	1.42	2.32	1:35	0.43	0.31	0.01	0.13	0.41	1 2	EFR
EFR-21	2.47	0.33	0.30	0.39	0.45	0.54	0.11	0.37		0.65	1.98	1.01	0.44	1.19	0:54	EFR	鱼
EFR-22		3.02	2.09	1.62	2.75	1:79	1.65	1.37	0.24	0.97	0.52	0.31	0.08	0.32	0.24	H III	
EFR-23	0.05	0.05	0.01	0.18	0.06	0.53	2.14		4.09	3.51	2.96	2.61	1.98	1.61	1.87	4	
EFR-23	0.06	0.01	0.13	0.03	0.07	0.07	0.08	1:50	0.81	0.06	0.43	0.00	0.00	0.47	0.57	4	
	0.03	0.00	0.00	0.00	0.01	0.01		0.39	0.07	0.03	0.88	0.28	0,05			4	
EFR-25	0.10	0.03	0.10	0.03	0.10	0.19	0.01	0.04	2.27	0.05	0.34	0.01	0.01	0.34	0.07	_	
EFR-26	2.02	1.44	2.25	1.38			0.12	0.10	0.04	0.39	0.28	0.14		0.27	0 14		
EFR-27	0.03	0.04	0.01	0.01	2.01	2.05	1.78	1.10	2.64	2.56	2.68	1.48	0.03	0.47	0.09		
EFR-28	1.81	2.68	1.72	2.46	0.15	0.01	0.01	0.01	0.48	0.05	0.04		2.24	1.0.7	1.20]	
MIN (ft)	0.00	0.00	0.00		2.02	1.39	1.36	0.64	2.81	2.75	1.86	0.00	0.01	0.04	0.00	1	
MAX (ft)	2.93	3.02		0.00	0.00	0.00	0.00	0.00	0.00	0.00		2.34	1.36	1.67	1:05	1	
Average (ft)	0.75		4.12	2.48	4.73	4.26	4.00	4.05	5.95		0.00	0.00	0.00	0.00	0.00	1	
Total Free Product (ft)	20.91	0.76	0.76	0.45	0.74	0.80	0.80	0.79	1.60	3.51	3.56	3.32	3.91	2.37	3.86	i	
Total Standing Free Product Volume (gal)		21.30	21.14	12.49	20.67	22.51	22.35	22.23		0.95	0.97	0.73	0.69	0.73	0.70	1	•
Full and A.T. and T. an	13.59	13.85	13.74	8.12	13.44	14.63	14:53		44.76	26.62	27.24	20.38	19.33	21.08	19.52	:	
Estimated Total Free Product Removed (gal) (1) (Liquid and	45.50					11.00	14.33	14.45	29.09	17.30	17.71	13.25	12.56	13.70			
Vapor Phase Free Product Volume)	45.50	43.66	46.38	22.05	25.07	44.12	35.36	49.32	79.06					13.70	12.69		
Estimated Total Fluids Removed (gal) (Liquid Phase Free Product Volume plus Groundwater Extraction Volume) as of Jan 2000	40.18	39.44	40.43	- 20.13	21.05	38.78	31.36	43.73		46.44	-56.75	37.50	40.36	37.70	27.86	68	3,188
Vapor Phase Free Product Extraction Volume (gal) 4s of fan 2000	6.31	5.05	7.60	5.22	-5.26	6.58	5:65	6.42	74.01	40.01	51.15	31.23	36.30	33.00	25.58	39	748
Liquid Phase Free Product Extraction Volume (gal) as of	39.19	38.61	38.78	16.83					11.06	8.49	8.90	7.50	6.53	6.35	4.76	7	132
Groundwater Extraction Volume (gal) per each EFR Event	0.99	0.83	1.65		19.81	37.54	29.71	42.90	68.00	37.95	47.65	30.00	33.83	31.35	23.10	37	694
(7) as of Jan 2000 Total EFR Extraction Volume (gal) (Total Volume: free	46.49			3.30	1.24	124	1.65	0.83	6.01	2.06	3.30	1.24	2.48	1.65	2.48	3	54
product + groundwater + product vapor) Estimated Volume Removed Resulting from Drum	70.97	44.49	. 48.03	25.35	26.31	45.36	37.01	50.15	85.07	48.50	60.05	38.73	42.84	39.35	30.34	304	14,297
Purging (GW purge water) if applicable (9) Total Volume Removed from Site (gal) (Manifested		110				134			148			296				202	3,634
volume) (9)		250				225			306			415		În Satelite S		534	17,630
Cumulative Total Free Product Removed (gal)	2,597	2,640	2,687	2,709	2,734	2,778	2,813	2,863	2,942	2,988	3,045	3,052	3,123	3,160	3,188	N/A	3,188
Extraction, Transportation & Disposal Cost ⁽²⁾		······································		795.13			762.31				L	L					
Unit Cost per gal ⁽³⁾			re .	3.18			3,39			996.13	<u> </u>		1,175.19			5 1,442.83	47,613.30

TABLE 2 L.E. CARPENTER - WHARTON, NEW JERSEY REGIONAL APPARENT FREE PRODUCT TRENDS

	EFR Event Date	21-Nov-97	09-Dec-97	07-Jan-98	16-Feb-98	16-Mar-98	27-Mar-98	24-Apr-98	29-May-98	30-Jun-98	31-Jul-98	24-Aug-98	17-Sep-98
<u>L</u>									1.55	2.11	1.28	1.22	1.71
Į.	EFR-1	1.64	1.53	1.94	2.48	0.93	0.94	1.42	1.55	2.11	1.12	1.09	1.21
	EFR-2	1.55	1.50	1.86	2.20	2.96	2.92	2.65	2.44	1.78 0.77	0.72	0.93	1.03
L	EFR-3	0.85	1.02	1.27	1.58	1.19	0.03	0.24	0.19				0.46
	EFR-17	0.04	0.17	1.56	0.17	0.08	0.00	0.09	0.00	0.02	0.37	0.29	
Western Region of	EFR-18	0.10	0.10	0:09	0.00	0.00	0.00	0.00	0.00	0.01	0.08	0.14	0.48
Free Product	EFR-20	0.40	0.34	0.95	0.27	0:00	0.00	0.04	0.24	0.37	0.65	0.63	0.79
	EFR-21	2.36	2.40	2.71	2.74	4.14	3.97	4.23	3.98	3.29	1.97	1.87	1.86
	EFR-28	2.20	2.30	1.78	2.60	3.20	3.48	4.40	3.16	2.61	1.47	1.73	1.69
	Total Free Product (ft)	9.14	9.36	12.16	12.04	12.50	11.34	13.07	11.56	10.96	7.66	7.90	9.23
	Total Free Product (gal)	5:86	6.00	7.79	7.72	8.01	7.27	8.38	7.41	7.03	4.91	5.06	6.00
											,		
	EFR-4	1.03	2.27	0.54	0.30	0.00	0.00	0.00	0.00	0:03	0.38	1.23	2.40
	EFR-5	4.03	3.74	4.25	3.29	3.39	1.71	2.71	2.02	1.86	2.38	2.52	2.33
	EFR-6	0.72	1.00	1.24	2.27	1.71	1.17	2.23	1.55	1.56 0.02	1.96 0.02	1.56 0.03	0.07
	EFR-7	0.17 =	0.09	- 0.16	0.00	- 0.00	0.00	0.00	0.00 0.65	0.42	0.90	1.26	1.68
	EFR-19	0.54	2.80	1.89	1.95	1.63	1.44 3.42	1.82	1.22	0.42	2.86	2.87	2.97
West-Central Region	EFR-22	- 3.78	4.10 0.06	0.05	0.02	4.69 0.00	0.00	0.00	0.00	0.05	0.11	0.08	0.27
of Free Product	EFR-23 EFR-24	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00
· -	EFR-25	2.95	3.00	3.55	4.15	3.11	0.72	0.82	0.79	0.78	-0.60	0.41	0.29
·	EFR-26	2.20	2.05	- 2.66	2.30	2.12	1.43	1.32	1.95	1.21	2.06	1.58	1.17
-	EFR-27	0.15	0.02	2.71	0.74	0.00	0.00	0.03	0.00	0.02	0.33	0.45	1.49
ŀ	Total Free Product (ft)	15.57	19.13	17.11	18.42	16.65	9:89	9.81	8.18	6.91	11.60	11.99	14.09
· ·	Total Free Product (gal)	9,98	12.26	10.97	11.81	10.67	6.34	6.29	5.24	4.43	7.44	7.69	9.16
													
	EFR-8	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.03	0.04	0.08	7 0.13
l l	EFR-9	0.00	1.10	1.79	0.16	3.08	0.08	0.07	0.11	0.29	0.61	0.98	1.23
	EFR-10	5.20	5,80	6.42	7.47	7.06	6.05	6.71	5.47	5.68	4.94	4,52	4.34
East-Central Region of	EFR-11	3.07	4.04	4.28	4.47	4.32	4.67	5.91	. 5.73	6.08	4.73	4.47	3.95
Free Product	EFR-12	0.04	0.03	0.00	0.07	0.00	0:00	0.00	0.02	0.28	0.22	0.28	0.24
	EFR-13	0.48	0.56	1.33	1.28	1.07	1.07	0.67	0.00	0.90	0.56	0.48	0.66
<u> </u>	Total Free Product (ft)	8.79	11.53	13.82	13.53	15.53	11.87	13.36	11.33	13.26	11.10	10.81	10.55
!	Total Free Product (gal)	5.63	7.39	8.86	8.67	9.95	7.61	8,56	7.26	8.50	7.12	6,93	6,86
			I	<u> </u>			·						
	EFR-14	0.10	0.16	0.00	0.00	0.00	0:00	0.00	0.00	0.00	0.00	0.00	0.00
 	EFR-15	0.09	0.12	0.27	0.06	0.00	0.00	0.00	0:00	0.03	0.02	0.03	0.03
Eastern Region of Free	EFR-16	0.00	0.00	0.00	0:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Product -	Total Free Product (ft)	0.19	0.28	0.27	0.06	0.00	0.00	0.00	0.00	0.03	0:02	0.03	0.03
-	Total Free Product (gal)	0.12	0.18	0.17	0.04	0.00	0.00	0.00	0.00	0.02	0.01	0.02	0.02
<u> </u>	- nut ter timues (Pat)		<u> </u>										
MODAL APPARET	DES DE COLLOS VOLLOS CE			<u> </u>									
· ·	REE PRODUCT VOLUME	·						22.22	10.02	19.97	19.47	19.70	22.03
16	unuj	21.60	25.83	27.79	28.24	28.64	21.22	23.23	19.92	19.9/	19:47	19.70	22.03

TABLE 2 L.E. CARPENTER - WHARTON, NEW JERSEY REGIONAL APPARENT FREE PRODUCT TRENDS

	EFR Event Date	22-Oct-98	20-Nov-98	18-Dec-98	13-Jan-99	17-Feb-99	23-Mar-99	19-Apr-99	18-May-99	22-Jun-99	28-Jul-99	27-Aug-99	22-Sep-9
<u>L</u>			<u> </u>					· · · · · · · · · · · · · · · · · · ·					
	EFR-1	1.59	1.71	1.57	0.53	1.79	3.68	1.13	1.09	1.15	1.49	1.27	1.94
ľ	EFR-2	1.29	1.51	1.41	0.95	1.40	2.42	1.46	1.22	0.92	1.21	1.00	0.63
ľ	EFR-3	1.01	1.19	1.18	1.14	1.01	1.63	0.36	0:25	0.86	0.88	1.03	0.74
T	EFR-17	0.56	0.71	0.53	0.26	0.08	0.06	0.06	0.08	0.12	0.39	0.36	0.10
Western Region of	EFR-18	0.68	0.98	1.08	0.56	0.11	0.00	0.06	0.16	0.46	0.96	1.37	0.61
Free Product	EFR-20	1.24	1.85	2.11	0.65	1.33	0.88	0.43	0.89	0.87	1.59	1.86	0.47
 	EFR-21	1.77	1.67	1.62	1.21	1.43	2.62	2.35	1.49	1.46	1.57	1.04	1.01
· -	EFR-28	1.83	1.79	1.74	1.03	1.29	1.71	1.65	1.46	1.25	1.67	1.78	0.38
 -	Total Free Product (ft)	9,97	11.41	11.24	0.33	8.44	13.00	7.50	6.64	7.09	9.76	9,71	5.88
-	Total Free Product (gal)	6.48	7.42	7.31	4.11	5.49	8.45	4.88	4.32	4.61	6.34	6.31	3.82
	EFR-4	2.17	1.75	1.79	0.73	0.10	0.14	0.08	0.05	0.03	0.44	0.99	0.51
ľ	EFR-5	2.52	2.19	2.28	2.68	3.47	6.15	2.65	2.61	2.66	2,66	1.57	1.77
ľ	EFR-6	1.25	1.29	1.38	().49	0.84	0.88	0.61	1.07	1.16	1.51	0.91	0.15
	EFR-7	0.05	0.20	0.16	0.02	0.04	0.04	0.07-	0.02	0.08	_0.28_	0.05	0.01
	EFR-19	1.95	2.31	2.44	1.83	1.68	0.52	0.44	0.52	1.10	2.05	2.02	0.51
	EFR-22	2.83	2.58	2.27	2.06	0.84	0.34	0.95	1.39	1.93	1.47	1.41	0.17 0.12
West-Central Region of Free Product	EFR-23	1.03	3.07	2.29	1.55	0.91	0.47	0.22	0.25	0.45	2.13 0.08	1.03	0.12
or Free Product	EFR-24	0.03	0.12	0.14	0.38	0.06	0.00	0.00	0.00	0.08	1.74	1.48	0.00
<u> </u>	EFR-25	0.41	1.33	1.58	1.05	1.75	1.19	1.08	0.76 1.29	1.28	1.23	0.72	0.21
1	EFR-26	1.24	1.08	1.09	0:73	0.55	0.45	0.75	0.02	0.03	0.17	0.72	0.06
<u> </u>	EFR-27	0.54	0.47	0.51	0.09	0.12		6.85	7.98	9.34	13.76	10.44	3.80
Ĺ	Total Free Product (ft)	14.02	16.39	15.93	11.61	10.36	10.18		5.19	6.07	8.94	6.79	2.47
<u>l</u>	Total Free Product (gal)	9,11	10.65	10.35	7.55	6.73	6.62	4.45	3.19	0.07	0.74	0.77	2.47
T T	EFR-8	0.09	0.07	0.03	0.12	0.00	0.03	0.03	0.03	0.09	0.39	0.27	0.09
 	EFR-9	1.31	1.26	1.86	0.74	0.49	0.06	0.11	0.32	0.49	1.16	0:56	0.41
ŀ	EFR-10	4.38	3.98	3,99	3.68	5.79	5.52	4.97	4.23	3.71	3.63	2.47	3.02
ast-Central Region of	EFR-11	4.06	3.65	3.52	2.42	4.69	2.84	2.02	2.48	3.28	2.78	1.57	1.93
Free Product	EFR-12	0.15	0.29	0.17	0.04	0.11	0.05	0.02	0:02	0:10	0.30	0.20	0.03
- Tree Froduct	EFR-13	0.82	1.13	1.30	0.22	1.19	0.15	0.49	0:50	0.44	1.33	1.01	0.74
-	Total Free Product (ft)	10.81	10.38	10.87	7.22	12.27	8.65	7.64	7.58	8.11	9,59	6:08	6.22
<u> </u>	Total Free Product (gal)	7.03	6.75	7.07	4.69	7.98	5.62	4.97	4.93	5.27	6.23	3.95	4.04
						<u> </u>							
	EFR-14	0.00	0.00	0.00	0.00	0.00	0:00	0.00	0.00	0.00	0.00	0.00	0.00
	EFR-15	, 0.12	0.12	0.32	0.11	0.07	0.01	0.01	0.00	0.00	0.00	0.13	0.04
astern Region of Free	EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	. 0.00	0.00	0.00
Product	Total Free Product (ft)	0.12	0.12	0.32	0.11	0.07	0.01	0.01	0.00	0.00	0.00	0.13	0.04
	Total Free Product (gal)	0.08	0.08	0.21	0.07	0.04	0.01	0.01	0.00	0.00	0.00	0.08	0.03
			·			1	r	<u> </u>	1			T	T
	REE PRODUCT VOLUME		ŀ								ı		
(C	GAL)	22.70	24.89	24.93	16.42	20.24	20.70	14.30	14.43	15.95	21.52	17.13	10.36

TABLE 2 LE. CARPENTER - WHARTON, NEW JERSEY REGIONAL APPARENT FREE PRODUCT TRENDS

	EFR Event Date	27-Oct-99	30-Nov-99	16-Dec-99	28-Jan-00	18-Feb-00	24-Mar-00	19-Apr-00	18-May-00	16-Jun-00	18-Jul-00	17-Aug-00	18-Sep-00
<u>L</u>							,	1.50	1 164 1	2.10	1.51	1.26	1.53
	EFR-1	1.63	1.47	1.20	1.22	0.85	1.86	1.59	1.54	1.89	1.40	0.36	1.08
ľ	EFR-2	1.35	1.28	1.40	0.06	1.04	2.25	2.00	1.64		0.25	0.02	0.08
F	EFR-3	0.69	0.47	0.02	0.51	0.07	0.08	0.09	0.62	1.02		0.02	0.08
ľ	EFR-17	0.06	0.24	0.25	0.11	0.32	0.04	0.16	0.65	0.04	0.01		0.09
Western Region of	EFR-18	0.36	0.77	0.05	0.20	0.05	0.12	0.04	0.32	0.01	0.06	0.16	<u> </u>
Free Product	EFR-20	1.92	1.36	0.75	1.08	2.58	0.64	0.42	0.54	0.33	0.30	0.39	0.45
Table Tabl	EFR-21	2.32	1.40	1.70	1.92	1.34	3.04	2.86	2.47	3.02	2.09	1.62	2.75
<u> </u>	EFR-28	2.19	0.96	1.42	1.33	1.00	2.30	2.42	1.81	2.68	1.72	2.48	2.02
1	Total Free Product (ft)	10.52	7.95	6.79	6.43	7.25	10.33	9.58	9.59	11.09	7.34	6.31	8.08
1	Total Free Product (gal)	6.84	5.17	4.41	4.18	4.71	6.71	6.23	6.23	7.21	4.77	4.10	5.25
	Total Free Frouder (gar)		1,11		<u></u>								
	EFR-4	0.11	0.03	0.58	0:51	0.48	0.11	0.11	0.41	0.22	0.05	0.02	0.02
<u> </u>	EFR-5	3.23	2,99	1.27	2.95	2.46	2.91	2.54	1.84	2.34	1.99	1.69	0.55
}-	EFR-6	0.86	0.63	0.33	1.07	0.77	0.29	0.31	0.49	0.27	0.54	0.29	0.55
	EFR-7	0.07	0.04-	0.47	0.15	0.02.	0.35	0.01	0.02		0.63	0.01	0.22
ľ	EFR-19	1.54	0.84	0.69	1.67	1.73	0.25	0.60	0.98	0.17	0.03	0.34	0.06
	EFR-22	2.22	1.76	0.53	0.82	0.58	0.09	0.16	0.05	0.01	0.13	0.03	0.07
West-Central Region	EFR-23	0.53	0.64	0.24	0.23	0:31	0.46	0.06	0:03	0.01	0.13	0.03	0.07
of Free Product	EFR-24	0.00	0.04	0.13	0.11	0.07	0.58	0.02	0.10	0.03	0.10	0.03	0.10
[EFR-25	0.39	0.19	0.05	0.31	0.39	0.58	1.68	2:02	1.44	2.25	1.38	2.01
	EFR-26	0:52	0.94	0.59	1.54.	0.14	0.20	0.01	0.03	0.04	0.01	0.01	0.15
	EFR-27	0.01	0.01	0.01	0.02	8:05	7.15	5.71	6.03	4.57	5.71	3.98	4.76
	Total Free Product (ft)	9:48	8.11	4.89	9.38	5.23	4.65	3.71	3.92	2.97	3.71	2.59	3.09
	Total Free Product (gal)	6.16	5.27	3.18	6.10	3,23	4.03	3.71					<u> </u>
	EFR-8	0.13	0.05	0.11	0.05	0.06	0.08	0.03	0.05	0.03	0.02	0.01	0.01
1	EFR-9	0.28	0.10	0.15	0.13	0.08	0.19	0.02	0.06	0.06	0.12	0.16	0.08
-	EFR-10	5.18	3.95	3.07	4.50	3,55	3.50	4.50	1.36	2.50	3.09	0.75	2.76
	EFR-11	3.20	3.11	1.07	3.44	4.95	2.41	2.95	2.93	2,49	4.12	0.79	4.73
East-Central Region of		0.09	0.67	0:01	0.03	0,49	0.46	0.10	0.19	0.01	0.01	0:00	0.03
Free Product	EFR-12	0.09	0.57	0.26	0.36	0.34	0.48	0.47	0.69	0.55	0.73	0.49	0.22
1	EFR-13		8.45	4.67	8.51	9.47	7.12	8.07	5.28	5.64	8.09	2.20	7.83
1	Total Free Product (ft)	9.66	5.49	3.04	5.53	6.16	4.63	5.25	3.43	3.67	5.26	1.43	5.09
	Total Free Product (gal)	6.28	3,47	1.04	1	<u> </u>							
	EFR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<u> </u>	EFR-15	0.02	0.08	0:02	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0,00	0.00
Bastern Region of Free	EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Product	Total Free Product (ft)		0.08	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00
	Total Free Product (gal)		0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0:00	0.00	0.00
			7	1			T		Ţ	<u> </u>	T	T	T
TOTAL APPARENT F	REE PRODUCT VOLUME			Į.				1					
	GAL)	II.	15.98	10.64	15.82	16.11	16.00	15.20	13.59	13.85	13.74	8.12	13.44

TABLE 2 L.E. CARPENTER - WHARTON, NEW JERSEY REGIONAL APPARENT FREE PRODUCT TRENDS

	EFR Event Date	25-Oct-00	17-Nov-00	15-Dec-00	15-Mar-01	23-Apr-01	25-May-01	13-Jun-01	27-Jul-01	24-Aug-01	25-Sep-01
<u> </u>					241	1.05	1.00	1.14	0.57	0.80	1.29
L	EFR-1	1.00	1.07	1.14	2.91	1.25	1.02				1.22
	EFR-2	0.97	1.09	0.76	2.92	2.66	1.75	2.26	1.22	1.17	1
	EFR-3	0.44	0.43	0.46	0.33	0.29	0.49	0.70	0.40	0.66	0.51
	EFR-17	0.06	0.36	0.01	0.41	0.31	0.51	0.28	0:02	0.49	0.34
Western Region of	EFR-18	0.31	0.31	0.20	3.27	1.35	0.43	0.31	0:01	0.13	0.41
Free Product	EFR-20	0.54	0.11	0.37	0.24	0.97	0.52	0.31	0.08	0.32	0.24
	EFR-21	1.79	1.65	1.37	4.09	3.51	2.96	2.61	1.98	1.61	1.87
-	EFR-28	1.39	1.36	0.64	2.81	2.75	1.86	2.34	1.36	1.67	1.05
<u> </u>	Total Free Product (ft)	6.50	6.38	4.95	16.98	13.09	9.54	9.95	5.64	6.85	6.93
-	Total Free Product (gal)	4.23	4.15	3.22	11.04	8.51	6.20	6.47	3.67	4.45	4.50
<u> </u>	Total Fice Floduct (gai)	1.23								 	
	EFR-4	0.02	0.05	0.21	0.59	1.65	0.01	0.44	0.02	1.86	0.11
	EFR-5	2.74	2.47	2.76	5.95	1.75	1.90	0.62	2.24	2.05	2.25
<u> </u>	EFR-6	0.83	0.79	0.96	2.05	0.32	0.43	0.16	0.46	0.49	0.37
	EFR-7	0.01	0.01	0.01.	. 0.28	0.02	0.02	0.00	0.00	0.16	0.00
	EFR-19	0.87	0.59	1.42	2.32	0.65	1.98	1.01	0.44	1.19	0.54
	EFR-22	0.53	2.14	1.50	0.81	0.06	0.43	0.00	0.00	0.47	0.57
West-Central Region	EFR-23	0.07	0.08	0:39	0:07	0:03	0:88	0.28	0:05	0.34	0.07
of Free Product	EFR-24	0.01	0.01	0.04	2.27	0.05	0.34	0.01	0.01	0.27	0.14
	EFR-25	0.19	0.12	0.10	0.04	0.39	0.28	0.14	0:03	0.47	0.09
	- EFR-26	2.05	1.78	1.10	2.64	2.56	2.68	1.48	2.24	1.07	1.20
	EFR-27	0.01	0.01	0.01	0.48	0.05	0.04	0.00	0.01	0.04	0.00
	Total Free Product (ft)	7.33	8.05	8.50	17.50	7.53	8.99	4.14	5.50	8.41	5.34
	Total Free Product (gal)	4.76	5.23	5.53	11.38	4.89	5.84	2.69	3.58	5.47	3.47
			0.00	1 00	4.02	0.05	0.04	0.03	0.01	0.18	0.00
L	EFR-8	0.16	0.02	0.06	0.03	0.05					0.39
L	EFR-9	0.02	0.50	0.77	0.57	0.07	0.56	0.07	0.14	0:27	
	EFR-10	3.88	3.27	4.05	5.64	3.17	3.52	3.32	3.73	2.30	2.62
East-Central Region of	EFR-11	4.26	4.00	3:73	2.82	2.41	3.56	2.60	3.91	2.37	3.86
Free Product	EFR-12	0.11	0.04	0.02	0.07	0:02	0.25	0.01	0.01	0.23	0.00
	EFR-13	0.25	0.09	0.15	1.14	0.27	0.78	0.26	0.39	0.47	0.38
	Total Free Product (ft)	8.68	7.92	8.78	10.27	5.99	8.71	6.29	8.19	5.82	7.25
· -	Total Free Product (gal)	5.64	5.15	5.71	6.68	3.89	5.66	4.09	5.32	3.78	4:71
	EFR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	EFR-15	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Eastern Region of Free	EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Product -	Total Free Product (ft)	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	Total Free Product (gal)	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00
				, , , , , ,						\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ 	
1	EE PRODUCT VOLUME									l	1
(G	AL)	14.63	14.53	14.45	29.09	17.30	17:71	13.25	12.56	13.70	12.69

MONTHLY EFR WELL GAUGING LOG

EFR #44

DATE

27-Jul-01

			27-jui-01
WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT TICKNESS (ft)
EFR-1	10.75	11.32	0.57
EFR-2	11.25	12.47	1.22
EFR-3	11.44	11.84	0.40
EFR-4	12.73	12.75	0.02
EFR-5	11.01	13.25	2.24
EFR-6	10.65	11.11	0.46
EFR-7	7.36	7.36	0.00
EFR-8	6.59	6.6	0.01
EFR-9	6.88	7.02	0.14
EFR-10	7.47	11.2	3.73
EFR-11	7.05	10.96	3.91
EFR-12	6.12	6.13	0.01
EFR-13	5.66	6.05	0.39
EFR-14	5.58	5.58	0.00
EFR-15	5.41	5.41	0.00
EFR-16	4.84	4.84	0.00
EFR-17	10.05	10.07	0.02
EFR-18	10.1	10.11	0.01
EFR-19	12.97	13.41	0.44
EFR-20	11.18	11,26	0.08
EFR-21	9.53	11.51	1.98
EFR-22	13.07	13.07	0.00
EFR-23	9.42	9.47	0.05
EFR-24	12.41	12.42	0.01
EFR-25	12,12	12.15	0.03
EFR-26	13.68	15.92	2.24
EFR-27	12.39	12.4	0.01
EFR-28	10.13	11.49	1.36

Total Volume

Of Free Standing Product (gal)

12.56

CEMCO FIELD TECHNICIAN:

Gary Pizzuti

10/11/2001 10:01 AM Prepared By: Nicholas J. Clevett RMT Project Manager

MONTHLY EFR VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG

EFR #44

27-Jul-01

WELL ID	EXTRACT	ION TIME	VAPOR PHASE CO	ONCENTRATION		SYSTEM RECOVER	DATA SER	REPER
	TOTAL TIME (min)	TOTAL TIME (hrs)	PPM	LEL (%)	VACUUM In Hg	CFM	lbs/hr	Total lbs
EFR-1	2.0	0.0333	6,560	100	17	100	32.01	1.0671
EFR-2	10.0	0.1667	6,560	100 "	17	100	32.01	5:3357
EFR-3	1.0	0.0167	6,560	100	17	100	32.01	0.5336
EFR-4	0.5	0.0083	6,560	100	.17	100	32.01	0.2668
EFR-5	10.0	0.1667	6,560	100	17	100	32.01	5:3357
EFR-6	2.0	0.0333	6,560	100	17	100	32.01	1.0671
EFR-7	0.0	0.0000	0		17	100	0.00	0.0000
EFR-8	0.5	0.0083	0	0	17	100	0.00	0.0000
EFR-9	1.0	0.0167	459	7	17	100	2.24	0.0373
EFR-10	15.0	0.2500	6,560	100	17	100	32.01	8.0036
EFR-11	15.0	0.2500	6,560	100	17	100	32.01	8.0036
EFR-12	0.5	0.0083	262	4	17	100	1.28	0.0107
EFR-13	0.5	0.0083	197	3	17	100	0.96	0.0080
EFR-14	0.0	0.0000	0		17	100	0.00	0.0000
EFR-15	0.0	0.0000	0		17	100	0.00	0.0000
EFR-16	0.0	0.0000	0		17	100	0.00	0.0000
EFR-17	0.5	0.0083	6,560	100	17	100	32.01	0.2668
EFR-18	0.5	0.0083	6,560	100	17	100	32.01	0.2668
EFR-19	2.0	0.0333	6,560	100	17	100	32.01	1.0671
EFR-20	1.0	0.0167	6,560	100	17	100	32.01	0.5336
EFR-21	9.0	0.1500	6,560	100	17	100	32.01	4.8021
EFR-22	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-23	1.0	0.0167	6,560	100	17	100	32.01	0.5336
EFR-23	0.5	0.0083	0	100	17	100	0.00	0.0000
EFR-25	0.5	0.0083	6,560	100	17	100	32.01	0.2668
EFR-26	15.0	0.2500	6,560	100	17	100	32.01	8.0036
EFR-27	0.5	0.0083	6,560	100	17	100	32.01	0.2668
EFR-28	10.0	0.1667	6,560	100	17	100	32.01	5.3357
	Time (hrs)	1.6417	'AVG ppm 5098.91				TOTAL (LBS)	51.0121
	-			_		TOTAL VAPOR PH	ASE VOLUME (GAL) 😭	6.5327

NOTE PPM = (% LEL on Meter) x (LEL of Product Mixture) x (1,000,000)

Where:

Parts per Million by Volume Cubic feet per minute (CFM)
Molecular Weight (lb/lb-mole) =
Ideal Gas Constant (359 ft³/lb-mole) =

(2) 359

(II) Weighted LEL for analyte mixture @ 0.656% (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-115; MW-6R; WP-B5 & WP-B4)

Analyte LELs: DEHP @ 0.3%; Ethylbenzene @ 1%; Xylenes @ 1.1%

Molar Mass (MM) = IGC= LEL =

ppm,=

Flow =

Free Product Mixture = 0.656 w 0.9363 Specific Gravity = (3)

NOTE (2) Avg. Molar Mass @ 292 (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-1IS; MW-6R; WP-85 & WP-84) Individual Analyte Molar Mass: DEHP @ 390.54; Ethylbenzene @ 106.2, Total Xylenes @ 106.2

(3) Average specific gravity of 0.9363 (RMT, Inc. product sampling in October 1999 @ MW-1R; EFR-11 & WP-AS)

Pounds/Hr (lbs/hr) = (ppm, x (60 min/hr) x (CFM) x (MM)) / ((1 x 10^6) x (359 ft³/lb-mole))

Free Product & Groundwater Gauging (55-Gal Drum)				
12 F 1				
Product Thickness (in)	20.50			
Groundwater Thickness (in)	1.50			
Conversion @ 1.65 gal/inch	1.65			
Total Product Volume (gal)	33.83			
Total Groundwater Volume (gal)	2.48			
Ratio Groundwater to Free Product (gal/gal)	0.07			

Date	27-Jul-01
Project #	3868.24
Subcontractor	CEMCO
Vac Head Utilized	NORTECH Corp. 551B

Y (gál)	
2.48	
33.83	
36.30	
40.	36 GAL _←
	2.48 33.83 36.30

CEMCO Field Technician Gary Pizzuti

RMT Project Manager Nick Clevett

MONTHLY EFR WELL GAUGING LOG

EFR #45

DATE

24-Aug-01

			Z I -Mug-UI
WELL ID	DEPTH TO PRODUCT (ff)	DEPTH TO WATER (ft)	PRODUCT TICKNESS (ft)
EFR-1	11.39	12.19	0.80
EFR-2	11.91	13.08	1.17
EFR-3	11.78	12.44	0.66
EFR-4	10.2	12.06	1.86
EFR-5	11.63	13.68	2.05
EFR-6	11.28	11.77	0.49
EFR-7	8.21	8.37	0.16
EFR-8	7.18	7.36	0.18
EFR-9	7.44	7.71	0.27
EFR-10	8.19	10.49	2.30
EFR-11	7.8	10.17	2.37
EFR-12	6.71	6.94	0.23
EFR-13	5.41	5.88	0.47
EFR-14	6.09	6.09	0.00
EFR-15	5.56	5.56	0.00
EFR-16	5.99	5.99	0.00
EFR-17	10.71	11.2	0.49
EFR-18	10.8	10.93	0.13
EFR-19	13.57	14.76	1.19
EFR-20	11.82	12.14	0.32
EFR-21	10.11	11.72	1.61
EFR-22	13.62	14.09	0.47
EFR-23	9.92	10.26	0.34
EFR-24	12.99	13.26	0.27
EFR-25	12.44	12.91	0.47
EFR-26	14.44	15.51	1.07
EFR-27	13	13.04	0.04

Total Volume

Of Free Standing

13.70

CEMCO FIELD TECHNICIAN:

Gary Pizzuti

Product (gal)

MONTHLY EFR VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG

EFR #45

24-Aug-01

TIME (min) TIME (h EFR-1 3.0 0.0500 EFR-2 7.0 0.1167 EFR-3 3.0 0.0500 EFR-4 10.0 0.1667 EFR-5 10.0 0.1667 EFR-6 2.0 0.0333 EFR-7 1.0 0.0167 EFR-8 2.0 0.0333 EFR-9 3.0 0.0500 EFR-11 10.0 0.1667 EFR-11 10.0 0.1667 EFR-12 2.0 0.0333 EFR-13 2.0 0.0333 EFR-14 0.0 0.0000 EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.0833 EFR-19 3.0 0.0500 EFR-19 3.0 0.0500 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0500 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500	AE VAPOR PHASE CO	ON TIME VAPOR PHASE CO	CENTRATION		SYSTEM RECOVE	Y DATA	
EFR-2 7.0 0.1167 EFR-3 3.0 0.0500 EFR-4 10.0 0.1667 EFR-5 10.0 0.1667 EFR-6 2.0 0.0333 EFR-7 1.0 0.0167 EFR-8 2.0 0.0333 EFR-9 3.0 0.0500 EFR-10 7.5 0.1250 EFR-11 10.0 0.1667 EFR-12 2.0 0.0333 EFR-13 2.0 0.0333 EFR-14 0.0 0.0000 EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.0833 EFR-18 1.0 0.01667 EFR-19 3.0 0.0500 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0500 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500	- PPM	TOTAL TIME (hrs) PPM	LEL (%)	VACUUM In Hg	CFM	lbs/hr	Total lbs
EFR-3 3.0 0.0500 EFR-4 10.0 0.1667 EFR-5 10.0 0.1667 EFR-6 2.0 0.0333 EFR-7 1.0 0.0167 EFR-8 2.0 0.0333 EFR-9 3.0 0.0500 EFR-10 7.5 0.1250 EFR-11 10.0 0.1667 EFR-12 2.0 0.0333 EFR-13 2.0 0.0333 EFR-14 0.0 0.0000 EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.0833 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-23 4.0 0.0667 EFR-25 3.0 0.0500 EFR-26 5.0 0.0833	6,560	0.0500 6,560	100	17	100	32.01	1.6007
EFR-4 10.0 0.1667 EFR-5 10.0 0.1667 EFR-6 2.0 0.0333 EFR-7 1.0 0.0167 EFR-8 2.0 0.0333 EFR-9 3.0 0.0590 EFR-10 7.5 0.1250 EFR-11 10.0 0.1667 EFR-12 2.0 0.0333 EFR-13 2.0 0.0333 EFR-13 2.0 0.0333 EFR-14 0.0 0.0000 EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.0833 EFR-18 1.0 0.0167 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0500 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500	7 6,560	0.1167 6,560	100	17	100	32.01	3.7350
EFR-5 10.0 0.1667 EFR-6 2.0 0.0333 EFR-7 1.0 0.0167 EFR-8 2.0 0.0333 EFR-9 3.0 0.0590 EFR-10 7.5 0.1250 EFR-11 10.0 0.1667 EFR-12 2.0 0.0333 EFR-13 2.0 0.0333 EFR-13 2.0 0.0333 EFR-14 0.0 0.0000 EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.0833 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500	6,560	0.0500 6,560	100	17	100	32.01	1.6007
EFR-6 2.0 0.0333 EFR-7 1.0 0.0167 EFR-8 2.0 0.0333 EFR-9 3.0 0.0590 EFR-10 7.5 0.1250 EFR-11 10.0 0.1667 EFR-12 2.0 0.0333 EFR-13 2.0 0.0333 EFR-13 2.0 0.0303 EFR-14 0.0 0.0000 EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.0833 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500	7 6,560	0.1667 6,560	100	. 17	100	32.01	5.3357
EFR-7 1.0 0.0167 EFR-8 2.0 0.0333 EFR-9 3.0 0.0590 EFR-10 7.5 0.1250 EFR-11 10.0 0.1667 EFR-12 2.0 0.0333 EFR-13 2.0 0.0333 EFR-14 0.0 0.0000 EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.0833 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500	7 6,560	0.1667 6,560	100	17	100 .	32.01	5.3357
EFR-8 2.0 0.0333 EFR-9 3.0 0.0500 EFR-10 7.5 0.1250 EFR-11 10.0 0.1667 EFR-12 2.0 0.0333 EFR-13 2.0 0.0333 EFR-14 0.0 0.0000 EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.0833 EFR-19 1.0 0.0167 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500	3 6,560	0.0333 6,560	100	17	100	32.01	1.0671
EFR-9 3.0 0.0500 EFR-10 7.5 0.1250 EFR-11 10.0 0.1667 EFR-12 2.0 0.0333 EFR-13 2.0 0.0303 EFR-14 0.0 0.0000 EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.0813 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500 EFR-26 5.0 0.0833	7 197	0.0167 197	3	17	100	0.96	0.0160
EFR-10 7.5 0.1250 EFR-11 10.0 0.1667 EFR-12 2.0 0.0333 EFR-13 2.0 0.0303 EFR-14 0.0 0.0000 EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.0833 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500 EFR-26 5.0 0.0833	3 328	0.0333 328	5	17	100	1.60	0.0534
EFR-11 10.0 0.1667 EFR-12 2.0 0.0333 EFR-13 2.0 0.0303 EFR-14 0.0 0.0000 EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.0833 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500 EFR-26 5.0 0.0833	00 262	0.0500 262	4	17	100	1,28	0.0640
EFR-12 2.0 0.0333 EFR-13 2.0 0.0333 EFR-14 0.0 0.0000 EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.0833 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 5.0 0.0833	6,560	0.1250 6,560	100	17	100	32.01	4.0018
EFR-13 2.0 0.0333 EFR-14 0.0 0.0000 EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.0833 EFR-19 1.0 0.0167 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500	6,560	0.1667 6,560	, 100	17	100	32.01	5.3357
EFR-14 0.0 0.0000 EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.833 EFR-19 1.0 0.0167 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 5.0 0.0833	3 262	0.0333 262	4	17	100	1.28	0.0427
EFR-15 0.0 0.0000 EFR-16 0.0 0.0000 EFR-17 5.0 0.833 EFR-19 1.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500 EFR-26 5.0 0.833	197	0.0333 197	3	17	100	0.96	0.0320
EFR-16 0.0 0.0000 EFR-17 5.0 0.0833 EFR-19 1.0 0.0167 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 3.0 0.0500 EFR-26 5.0 0.0833	ю 0	0.0000	***	17	100	0.00	0.0000
EFR-17 5.0 0.0833 EFR-19 1.0 0.0167 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-25 5.0 0.0833	0	0.0000 0		17	1,00	0.00	0.0000
EFR-13 1.0 0.0167 EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-26 5.0 0.0833	0	0.0000		17	100	0.00	0.0000
EFR-19 3.0 0.0500 EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-26 5.0 0.0833	6,560	0.0833 6,560	100	17	100	32.01	2.6679
EFR-20 2.0 0.0333 EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-26 5.0 0.0833	6,560	0.0167 6,560	100	17	100	32.01	0.5336
EFR-21 3.0 0.0500 EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-26 5.0 0.0833	0 6,560	0.0500 6,560	100	17	100	32.01	1.6007
EFR-22 3.0 0.0500 EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-26 5.0 0.0833	6,560	0.0333 6,560	100	17	100	32.01	1.0671
EFR-23 4.0 0.0667 EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-26 5.0 0.0833	6,560	0.0500 6,560	100	17	100	32.01	1.6007
EFR-24 3.0 0.0500 EFR-25 3.0 0.0500 EFR-26 5.0 0.0833	6,560	0.0500 6,560	100	17	100	32.01	1.6007
EFR-25 3.0 0.0500 EFR-26 5.0 0.0833	6,560	0.0667 6,560	100	17	100	32.01	2.1343
EFR-26 5.0 0.0833)O O	0.0500 0	100	17	100	0.00	0.0000
	00 6,560	0.0500 6,560	100	17	100	32.01	1.6007
EFR-27 1.0 0.0167	6,560	0.0833 6,560	iço	17	100	32.01	2.6679
	6,560	0.0167 6,560	100	17	100	32.01	0.5336
EFR-28 10.0 0.1667			100	17	100	32.01	5.3357
Total EFR Time (hrs) 1.7583	33 AVG ppm 5412.00	1.7583 AVG ppm 5412.00				ASE VOLUME (GAL)	49.5634 6.3472

NOTE PPM = (% LEL on Meter) x (LEL of Product Mixture) x (1,000,000)

(1) Weighted LEL for analyte mixture @ 0.656% (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-1IS; MW-6R; WP-85 & WP-84) Analyte LELs: DEHP @ 0.3%; Ethylbenzene @ 1%; Xylenes @ 1.1%

Molar Mass (MM) =

Where

Parts per Million by Volume Cubic feet per minute (CFM) Molecular Weight (lb/lb-mole) =

350 292 (2) Ideal Gas Constant (359 ft3/lb-mole) = Free Product Mixture = 0.656 0.9363

SC = Specific Gravity = NOTE (2) Avg. Molar Mass @ 292 (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-115, MW-6R; WP-85 & WP-84)

Individual Analyte Molar Mass: DEHP @ 390.54; Ethylberuzene @ 106.2; Total Xylenes @ 106.2

(3) Average specific gravity of 0.9363 (RMT, Inc. product sampling in October 1999 @ MW-1R; EFR-11 & WP-A8)

Pounds/Hr (lbs/hr) = $(ppm_v \times (60 \text{ min/hr}) \times (CFM) \times (MM)) / ((1 \times 10^6) \times (359 \text{ ft}^3/\text{lb-mole}))$

Free Product & Groundwater Gauging (55-Gal Drum)			
Product Thickness (in)	19.00		
Groundwater Thickness (in)	1.00		
Conversion @ 1.65 gal/inch	1.65		
Total Product Volume (gal)	31.35		
Total Groundwater Volume (gal)	1.65		
Ratio Groundwater to Free Product (gal/gal)	0.05		

Date	24-Aug-01
Project #	3868.24
Subcontractor	CEMCO
Vac Head Utilized	NORTECH Corp. 551B

	Y (gal)	
Total Recovered Groundwater Volume (gal)	1.65	_
Total Recovered Free Product Volume (gal)	31.35	_
Total Recovered Fluids Volume (gal)	33.00	┪
TOTAL FER PRODUCT VOLUME	37.	70 GAL

Flow =

IGC=

LEL =

CEMCO Field Technician Gary Pizzuti RMT Project Manager Nick Clevett

MONTHLY EFR WELL GAUGING LOG

EFR #46

DATE

25-Sep-01

		73-3ep-01			
WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT TICKNESS (ft)		
EFR-1	10.9	12.19	1.29		
EFR-2	11.46	12.68	1.22		
EFR-3	11.3	11.81	0.51		
EFR-4	12.96	13.07	0.11		
EFR-5	11.16	13.41	2.25		
EFR-6	10.81	11.18	0.37		
EFR-7	7.07	7.07	0.00		
EFR-8	6.67	6.67	0.00		
EFR-9	6.97	7.36	0.39		
EFR-10	7.62	10.24	2.62		
EFR-11	7.14	11	3.86		
EFR-12	6.26	6.26	0.00		
EFR-13	5.39	5.77	0.38		
EFR-14	5.57	5.57	0.00		
EFR-15	4.39	4.39	0.00		
EFR-16	5.12	5.12	0.00		
EFR-17	10.22	10.56	0.34		
EFR-18	10.21	10.62	0.41		
EFR-19	13.13	13.67	0.54		
EFR-20	11.39	11.63	0.24		
EFR-21	9.76	11.63	1.87		
EFR-22	13.3	13.87	0.57		
EFR-23	9.64	9.71	0.07		
EFR-24	12.58	12.72	0.14		
EFR-25	12.3	12.39	0.09		
EFR-26	13.92	15.12	1.20		
EFR-27	12.58	12.58	0.00		
EFR-28	10.34	11.39	1.05		
		······································	T-4-1 37-1		

Total Volume Of Free Standing

12.69

CEMCO FIELD TECHNICIAN:

Gary Pizzuti

Standing Product (gal)

MONTHLY EFR VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG

EFR #46

25-Sep-01

WELLID	EXTRACT	ION TIME	VAPOR PHASE CO	NCENTRATION :		SYSTEM RECOVER	YDATA	
	TOTAL TIME (min)	TOTAL TIME (hrs)	PPM	LEL (%)	VACUUM In Hg	CFM	lbs/hr	Total Ib
EFR-1	10.0	0.1667	6,560	100	17	100	32.01	5.3357
EFR-2	5.0	0.0833	6,560	100	17	100	32.01	2.6679
EFR-3	0.5	0.0083	6,560	100	17	100	32.01	0.2668
EFR-4	1.0	0.0167	6,560	100	17	100	32.01	0.5336
EFR-5	3.0	0.0500	6,560	100	17	100	32.01	1.6007
EFR-6	2.0	0.0333	6,560	160	17	100	32.01	1.0671
EFR-7	0.0	0.0000	0	· 0	17	100	0.00	0.0000
EFR-8	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-9	1.0	0.0167	394	6	17	100	1.92	0.0320
EFR-10	20.0	0.3333	4,789	73	17	100	23.37	7.7901
EFR-11	15.0	0.2500	6,560	100	17	100	32.01	8.0036
EFR-12	0.0	0.0000	O	. 0	17	100	0.00	0.0000
EFR-13	0.0	0.0000	0	0	17	100	0.00	0.000
EFR-14	0.0	0.0000	0	0	17	100	0.00	0.000
EFR-15	0.0	0.0000	O O	. 0	17	100	0.00	0.000
EFR-16	0.0	0.0000	0	0	17	100	0.00	0.000
EFR-17	0.0	0.0000	0	0	17	100	0.00	0.000
EFR-18	0.5	0.0083	6,560	100	17	100	32.01	0.266
EFR-19	0.5	0.0083	6,560	100	17	100	32.01	0.266
EFR-20	0.5	0.0083	6,560	100	17	100	32.01	0.266
EFR-21	0.0	0.0000	0	. 0	17	100	ģ.00	0.000
EFR-22	1.0	0.0167	6,560	100	17	100	32.01	0.533
EFR-23	0.5	0.0083	6,560	100	17	100	32.01	0.266
EFR-24	1.0	0.0167	0	100	17	100	0.00	0.000
EFR-25	0.5	0.0083	6,560	100	17	100	32.01	0.266
EFR-26	10.0	0.1667	6,560	100	17	100	32.01	5.335
EFR-27	0.0	0.0000	0	0	17	100	0.00	0.000
EFR-28	5.0	0.0833	6,560	100	17	100	32.01	2.667
Total EFR	Time (hrs) 🗀	1.2833	AVG ppm 4708.29	1	-		TOTAL (LBS)	37.16
				•	Whara	TOTAL VAPOR PH	ASE VOLUME (GAL) 🚈	4.75

NOTE PPM = (% LEL on Meter) x (LEL of Product Mixture) x (1,000,000)

(1) Weighard LEL for analyte mixture @ 0.656% (based on DEHP, Ethylbenzone & Total Xyleine concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-1IS; MW-6R; WP-B5 & WP-B4) Analyte LELs: DEHP @ 0.3%; Ethylbenzene @ 1%; Xylenes @ 1.1%

Where: ppm,= Flow = Molar Mass (MM) =

Parts per Million by Volume

Cubic feet per minute (CFM) Molecular Weight (lb/lb-mole) = 292 (2) Ideal Gas Constant (359 ft3/lb-mole) =

LEL = SG =

ICC=

Free Product Mixture = 0.656 (1) Specific Gravity = 0.9363 (3)

NOTE 32 Avg. Molar Mass © 292 (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-115; MW-6R; WP-85 & WP-84) Individual Analyte Molar Mass: DEHP @ 390.54; Ethylbenzene © 106.2: Total Xylenes © 106.2

(3) Average specific gravity of 0.9363 (RMT, Inc. product sampling in October 1999 @ MW-1R; EFR-11 & WP-A8)

Pounds/Hr (lbs/hr) = (ppm, x (60 min/hr) x (CFM) x (MM)) / ((1 x 10^5) x (359 fr³/lb-mole))

Free Product & Groundwater Gauging (55-Gal Drum)					
Product Thickness (in)	14.00				
Groundwater Thickness (in)	1.50				
Conversion @ 1.65 gal/inch	1.65				
Total Product Volume (gal)	23.10				
Total Groundwater Volume (gal)	2.48				
Ratio Groundwater to Free Product (gal/gal)	0.11				

Date	25-Sep-01
Project #	3868.24
Subcontractor	CEMCO
Vac Head Utilized	NORTECH Corp. 551B

	Y (gal)	ĺ	
Total Recovered Groundwater Volume (gal)	2.48	ì	
Total Recovered Free Product Volume (gal)	23.10	1	
Total Recovered Fluids Volume (gal)	25.58		_
TOTAL EFR PRODUCT VOLUME	27.86	GAL	JĘ

CEMCO Field Technician Gary Pizzuti

RMT Project Manager

Nick Clevett

TABLE 4

L.E. CARPENTER - WHARTON, NEW JERSEY

QUARTERLY MONITORING PROTOCOL

Monitoring Well	Battom of Well (ft)	Analytical Parameters	Rational	Comments
MW-14I	40.96', 2"	BTEX ⁽ⁱ⁾ DEHP ⁽²⁾	Analytical results will identify the migration of the dissolved groundwater plume in the Intermediate Aquifer Zone downgradient of the site (Wharton Enterprise property)	Original Monitoring Well
MW-15S	17.47', 4"	BTEX ⁽ⁱ⁾ DEHP ⁽²⁾	Analytical results will identify if the dissolved groundwater plume is migrating through this portion of the shallow aquifer zone (on the rail spur right-of-way)	Original Monitoring Well
MW-15I	38.34', 2"	BTEX ⁽¹⁾ DEHP ⁽²⁾	Analytical results will identify the migration of the dissolved groundwater plume through the Intermediate Aquifer Zone in the is area (on rail spur right-of-way)	Original Monitoring Well
MW-22R	11', 2"	BTEX ⁽¹⁾ DEHP ⁽¹⁾	Analytical results will identify the movement of the dissolved groundwater plume in the shallow aquifer zone downgradient of the site (Wharton Enterprise property).	Original Monitoring Well. Beginning in 2nd quarter 2001, well will be analyzed for DEHP quarterly vs. semiannually
MW-25R	11', 2"	BTEX ⁽¹⁾ DEHP ⁽¹⁾	Analytical results will identify the movement of the dissolved groundwater plume in the shallow aquifer zone downgradient of the site. East of MW-22R (Wharton Enterprise property).	DEHP sampling required quarterly as opposed to semi annually per Nov 23, 1998 NJDEP Letter.
MW-17S ⁽³⁾	13.4', 4"	BTEX DEHP	Analytical results from this well will also identily "background" conditions at the site in the shallow aquifer zone.	Original Monitoring Well
MW-4	27', 2"	BTEX ⁽¹⁾ DEHP ⁽²⁾	Analytical results from this well will also identify "background" conditions at the site in the shallow aquifer zone (south portion of subject site, bordering on the Rockaway River)	
MW-11D(R)	161'	DEHP ⁽¹⁾	contamination of deep aquifer. This well lies in the center of the free product plume.	New well added to monitoring protocol as of May 21, 1999 NJDEP Letter (review of 1st quarter 1999 monitoring report). Well exhibited DEHP contamination potentially as the result of draw down during well installation. Well will be sampled for both monitoring program parameters (BTEX & DEHP) per NJDEP letter dated Aug 17, 1999. As of 4th Quarter 2000 (1 year of BTEX and DEHP sampling), approval was requested from NJDEP and USEPA to remove this well from the quarterly sampling program. NJDEP response letter dated April 5, 2001 following review of the 4th Quarter 2000 monitoring report requested that MW-11D(R) be sampled quarterly for DEHP ONLY.
MW-21	15.0'	BTEX ⁽¹⁾ DEHP ⁽¹⁾	Analytical results from this well will also identify "background" conditions at the site in the shallow aquifer zone. Additionally, data from this well is used to track the potential migratory trend from MW-25 (Eastern most portion of the subject site)	New well added to monitoring protocol as of Nov 23, 1998 NJDEP Letter.

NOTES

- (1) Parameter analysed every quarter
- (2) Parameter analysed 2nd and 4th quarter ONLY.
- (3) Well sampled 2nd and 4th quarter ONLY.

QA/QC PROTOCOL

- One (1) field blank will be collected for each parameter per each event (an additional 8 samples 4 BTEX and 4 DEHP)
- One (1) trip blank will be collected, alternating parameters per each event (an additional 4 samples 2 BTEX and 2 DEHP)
- One (1) duplicate sample will be collected from alternating wells and analyzed for alternating parameters (2 BTEX and 2 DEHP)

- S: Shallow Hydrogeologic Unit
- I: Intermediate Hydrogeologic
- D: Deep Hydrogeologic Unit
- R: Replacement well

FIELD ANALYSIS

All quarterly monitoring wells will be field tested for pH, temperature, specific conductivity, dissolved oxygen, and redox potential

Redox potential added to field analysis 1st quarter 2001 to incorporate into RNA initiatives

	SAMPLI	NG DATE			CHEMICA	L ANALYSIS RI	ESULTS			ABC	OVE NJGWQS	? ·
MONITORING WELLS	YEAR	QUARTER	Benzene	Ethylbenzene	Taluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)					
			ug/l	ug/l	ug/I	ug/l	ug/I	Benzene	Ethylbenzene	Toluene	Total Xylenes	his-2-Ethylhexylphthalate (DEHP)
NEW JERSEY GROUNDW	ATER QUALITY STA	ANDARDS (NJCAVQS)	1	700	1,000	40	30					
MW-4	1995	1	ND	26	ND	32	25,000	NO	NO	NO	NO	YES
		2	ND	16	ND	13	46,000	NO	NO	NO	NO	YES
		3	ND	9.7	ND	8.7	NS	NO	NO	NO	NO	-
		4	ND	8.8	ND	11	17,000	NO	NO	NO_	NO	YES
	1996	1	ND	24	ND	47	NS	NO	NO	NO	YES	
		2	NS	NS	NS	NS	NS					
		3	ND	6.8	ND	4.3	NS	NO	NO	NO	NO	
		4	ND	2.3	ND	ND	11,000	NO	NO	NO	NO	YES
	1997	1	ND	3.5	ND	1.8	NS	NO	NO	NO	NO	_
		. 2	ND .	1.2	ND.	4.2	120	NO	NO	NO -	NO	YES
		3	ND	2.2	ND	12.6	NS	NO	NO	NO	NO	<u> </u>
		4	NS	NS	NS	NS	NS		-			-
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO:	NO	- .
		2	ND	1.0	ND	1.4	710	NO	NO	NO	NO	YES
		3	ND	1.9	ND	1.2	NS	NO	NO	NO	NO	-
		4	ND	9.3	ND	3.3	650	NO	NO	NO	NO	YES
	. 1999	1	ND.	1.1	ND	2.5	NS	NO	NO	NO	NO	_
· · · · · · · · · · · · · · · · · · ·		2	ND	0.66	ND	ND	3,000	NO	NO	NO	NO	YES
		2 duplicate	ND	0.43	ND	ND	4,400	NO	NO	NO	NO	YES
		3	ND	3.10	ND	2.9	NS	NO	NO	NO	NO	
		4	ND	0.51	ND	ND	4,000	NO	NO	NO	NO	YES
	2000	1	ND	0.54	ND	1.6	NS	NO	NO	NO	NO	
		2	ND	0.3	ND	ND	480	NO	NO	NO	NO	YES
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	0.41	210	NO	NO	NO	NO	YES
		4 duplicate	ND :	ND	ND	0.33	NS	NO	NO	NO	NO	
	2001	1	ND	1	ND	3.7	NS	NO	NO	NO	NO	-
DEHP found an lab blank		2	ND	0.31	ND	0.41	300	NO	NO	NO	NO	YES
		3	ND	0.52	ND	2.5	NS	NO	NO	NO	NO	-

	SAMPLING	G DATE			CHEMICA	L ANALYSIS RI	SULTS			ABO	OVENJGWQS	
MONITORING WELLS	YEAR	OUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)					
	IEAK	gonnia	ug/l	ug/l	սբ∕1	ug/l	ug/l	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEH)
NEW JERSEY GROUNDY	NEW JERSEY GROUNDWATER QUALITY STAN		1	700	1,000	40	30					
MW-11(DR) (2)(3) 1999		1	ND	ND	ND	ND	64	NO	NO	NO	NO	YES
11211 22(2)21/		1 duplicate	ND	ND	ND	ND	20	NO	NO	NO	NO	NO
		2	NS	NS	NS	NS	NS				-	~
		3 ⁽³⁾	NS	NS	NS	NS	59					YES
		3 duplicate	NS	NS	NS	NS	13		-			NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	Field ID: MW-11DD	2 duplicate	ND	ND	ND	ND	NR	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	3.4	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
DEHP found in lab blank	2001	1	ND	ND	ND	ND	0.8	NO	NO	NO	NO	NO
DEHP found in lab blank	Field ID: MW-11DD	1 duplicate	NS	NS	NS_	NS	0.9	<u> </u>	-	 -		NO
DRHP found in lab blank		. 2	NS	NS	NS	NS	1,5		<u> </u>	-		NO
		3	NS	NS	NS	NS	ND		-	<u> </u>		NO

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

	SAMPLI	NG DATE		•	CHEMICA	L ANALYSIS RI	ESULTS			ABC	OVE NJGWQS	?
MONITORING WELLS	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethythexylphthalate (DEHP)					
		Q-11.1.1	ug/l	ug/l	ug∕l	ug∕l	ug/l	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEH)
NEW JERSEY GROUNDW	ATER QUALITY STA	NDARDS (NJCWQS)	1	700	1,000	40	30					· · · · · · · · · · · · · · · · · · ·
MW-14I	1995	1	ND	0.4	ND	1.2	140	NO	NO	NO	NO	YES
		2	ND	ND	ND	ND	1.6	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	
		4	ND	ND	ND	ND	2.6	NO	NO	NO	NO	NO
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	NS	NS	NS	NS	NS	-	,,,,	-		-
		3	ND	ND	ND	ND	NS	NO	NO	NO	МО	
		4	ND	ND	ND	ND	2.7	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	1.6	NO	NO	NO	NO	, NO.
		3	1.2	22.1	ND	176	NS	YES	NO	NO	Yes	-
		4	NS	NS	NS	NS	NS	_	_	-		-
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	0.34	ND	2	24	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
	=	4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	_
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
··································		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2001	1	ND	ND	ND	ND	2.4	NO	NO	NO	NO	NO
DEFF found in lab blank		2	ND	ND	ND	ND	3.5	NO	NO	NO	NO	NO
Field ID. MW-14Id		2 ^{duplicate}	ND	ND	ND	ND	NS	NO	NO	NO	NO	
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-

	SAMPLIN	IG DATE			CHEMICA	L ANALYSIS R	ESULTS			ABC	OVE NJGWQS	· · · · · · · · · · · · · · · · · · ·
MONITORING WELLS	YEAR	QUARTER	Benzene	Ethylbenzene	Taiuene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)					
			ug/I	ug/l	ug/l	ug/l	ug/l	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP
NEW JERSEY GROUND	VATER QUALITY STA	NDARDS (NJGWQS)	1	700	1,000	40	30		<u> </u>			
MW-15S	1995	1	ND	ND	ND	ND	2.4	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND_	NO	NO	NO.	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	
		4	ND	ND	ND	ND	ND	NO	NО	NO	NO	NO
	1996	1	ND	33	ND	83	NS	NO	NO	NO	YES	-
		2	NS	NS	NS_	NS	NS			-		-
		3	. ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	0.21	ND	1.7	ND	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	
		2	ND	ND	ND	ND	1.2	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS NS	NO	NO	NO	NO	
		4	NS	NS	NS	NS	NS	-		. –		-
	1998	1	ND	ND	-1.4	ND	NS	NO	NO :	NO	NO	-
		2	ND	ND	ND	1.3	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND -	ND T	ND	NO	NO	NO	NO.	МО
	1999	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	_
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
· : • • • • • • • • • • • • • • • • • •		. 3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2001	1	ND	ND	ND	ND	NS NS	NO	NO	NO	NO	-
DEHP found in lab blank		2	ND	ND	ND	ND	0.8	NO	NO.	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	<u> </u>

	SAMPLIN	NG DATE			CHEMICA	L ANALYSIS RI	SULTS			ABC	OVE NJGWQS	7
MONITORING WELLS	YEAR	QUARTER	Benzene	Ethylbenzene	Taluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)					
			ug/l	ug/l	ug/l	ug/l	ug/l	Benzeae	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
NEW JERSEY GROUNDW	ATER QUALITY STA	NDARDS (NJGIVQS)	1	700	1,000	40	30					
MW-15I	1995	1	ND	ND	ND	ND	250	NO	NO	NO	NO	YES
		2	ND	ND	ND	ND	7.2	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	
		4	ND	ND	ND	ND	2.8	NO	NO	NO	NO	NO
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	NS	NS	NS	NS	NS			-		-
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	1.7	NO	NO	NO	NO	NO
		4 ^{duplicate}	ND	ND	ND	ND	1.9	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	. ND	_ NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	2.2	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
	×	. 4	NS	NS	NS	NS	NS	-			-	
	1998	1	ND	ND	ND	ND	NS	NO.	NO	NO	NO	
	-	-2	ND.	ND	: ND	ND	1.9	NO	NO	NO	NO	NO
		2 ^{duplicate}	ND	ND	ND	ND	3.8	NO	NO _	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	<u> </u>
		4	ND	ND	ND	0.53	11	NO	NO	NO	NO	NO
		4 ^{duplicate}	ND	0.2	ND	0.8	9.8	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	~
		2	ND	ND	ND	ND	4.8	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2001	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	
DEHP found in lab blank	2001	2	ND	ND	ND	ND	1.2	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	

	SAMPLI	NG DATE			CHEMICA	L ANALYSIS RI	SULTS			ABC	OVE NJGWQS	
MONITORING WELLS	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)				`	
			ug/l	ug/l	ug/i	ug/l	ug/l	Benzene	Ethylbenzene	Tolvene	Total Xylenes	bis-2-Ethylhexylphthalate (DEH)
NEW JERSEY GROUNDW	ATER QUALITY ST.	ANDARDS (NJGAVQS)	1	700	1,000	40	30					
MW-17S ⁽⁴⁾	1995	1	ND	0.6	0.3	1.9	11	NO	NO	NO	NO	NO
Well peopled 2nd and 4th Quarters ony		2	0.2	ND	0.18	ND	ND	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS					-
		4	ND	ND	ND	0.63	ND	NO	NO	NO	NO	NO
	1996	1	NS	NS	NS	NS	NS			-		-
		2	NS	NS	NS	NS	NS	_				
		3	NS	NS	NS	NS	NS	1				-
<u> </u>		4	ND	ND	ND	ND	1.5	NO	NO	NO	NO	NO
	1997	1	NS	NS	NS	NS	NS	-		-		
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	
1.2		3	NS	NS	NS	NS	NS	1	· 25.3.	-	-	-
· · · · · · · · · · · · · · · · · · ·		4	NS	NS	NS	NS	NS		-	-		
	1998	1	NS	NS	NS	NS	NS	-	-		-	
		2	ND	ND	· ND	1.2	6.1	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS	-	-			-
		4	ND	ND	ND	ND	6	NO	NO	NO	NO	NO
	1999	1	NS	NS	NS	NS	NS	-	-			-
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS	-		-	-	
		4	ND	ND	ND	ND	40	NO	NO	NO	NO	YES
	2000	1	NS	NS	NS	NS	NS		-			
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS	~		-		
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
DEHP found in lab blank	2001	2	ND	ND	ND	ND	1.8	NO	NO	NO	NO	NO

	SAMPLI	NG DATE			CHEMICA	. ANALYSIS RE	SULTS	ABOVE NJGWQS ?					
MONITORING WELLS	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	his-2-Ethylhexylphthalate (DEHP)						
	TEAK	QUARTER	ug/l	ug∕l	ug/l	ug/l	ug/l	Benzene	Ethylbenzene	Taluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	
NEW JERSEY GROUNDW	NEW JERSEY GROUNDWATER QUALITY STANDARDS IN		1	700	1,000	40	30						
MW-21 (1)	1999	1	ND	ND	ND	ND	ND	NO	NO_	NO	NO	NO	
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	
	2000	1 1	ND	ND	ND	ND	6	NO	NO	NO	NO	NO	
	2000	1 duplicate	NS	NS	NS	NS	ND	-		T -		NO	
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	
DEHP found in lab blank	2001	 i 	ND	ND	ND	ND	2.7	NO	NO	NO	NO	NO	
DEHP found in lab blank		2	ND	ND	ND	ND	0.9	NO	NO	NO	NO	NO	
		1 3	ND	ND	ND	ND	0.9	NO	NO	NO	NO	NO	

	SAMPLI	NG DATE			CHEMICA	L ANALYSIS RI	ESULTS	ABOVE NJGWQS?						
MONITORING WELLS	YEÁR	QUARTER	Benzene	Ethylbenzene	Talvene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)							
		2,	ug/l	ug/l	ug/l	ug/l	ug/l	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)		
NEW JERSEY GROUNDW	ATER QUALITY ST.	ANDARDS (NJCWQS)	1	700	1,000	40	30							
MW-22(R)	1995	1	ND	57	ND	260	6,500	NO	NO	NO	YES	YES		
		2	ND	311	ND	955	380	NO	NO	NO	YES	YES		
		3	ND	171	ND	693	NS	NO	NO	NO	YES	_		
		4	ND	123	ND	494	320	NO	NO	NO	YES	YPS		
	1996	1	NS	NS	NS	NS	NS			-		_		
		2	NS	NS	NS	NS	NS							
		3	ND	359	ND	1,320	NS	NO	NO	NO	YES	<u>-</u>		
		4	ND	320	ND	1,330	ND	NO	NO	NO	YES	NO		
	1997	1	NS	NS	NS	NS	NS	_	-		_			
		2	ND	5,730	ND	32,900	7,500	NO	YES	ИО	YES	YES		
1000		.3	ND	11,400	348	66,000	NS	NO	YES	NO	YES	-		
-		4	NS	NS	NS	NS	NS	-	-		-			
	1998	1	ND	4,070	348	20,600	NS	NO	YES	NO	YES			
		2	ND	2,260	ND	11,300	5,800	NO	YES	NO	YES	YES		
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	<u>-</u>		
		3 ^{duplicate}	ND	2,510	ND	11,000	NS	NO	YES	NO	YES	-		
		4	ND	1,650	ND	7,230	1,100	NO	YES	NO	YES	YES		
· · · · · · · · · · · · · · · · · · ·	1999	1	ND	18	ND	84	NS	NO	NO	NO	YES			
		2	ND	1,600	ND	7,600	670	NO	YES	NO	YES	YES		
		3	ND	1,200	42	5,200	NS	NO	YES	NO	YES	-		
		4	ND	810	ND	3,300	1200	NO	YES	NO	YES	YES		
		4 duplicate	ND	840	ND	3,400	1600	NO	YES	NO	YES	YES		
······································	2000	1	ND	360	ND	1,400	NS	NO	NO	NO	YES	-		
Dilution Factor 50		2	ND	820	ND	3,600	92	NO	YES	NO	YES	YES		
Dilution Factor 200		3	ND	1,000	ND	4,800	NS	NO	YES	NO	YES	-		
Dilution Factor 50 and 250 for DEHP and BTEX respectively		4	ND	1,200	ND	6,200	5,100	NO	YES	NO	YES	YES		
Dilution Fector 200	2001	1	ND	1,900	ND	9,000	NS	NO	YES	NO	YES	_		
Calulion Factor 20 and 100 for DEHP and BTEX respectively. DEHP found in lab blank		2	ND	910	ND	4,100	2,400	NO	YES	NO	YES	YES		
Dilution factor 100 for BTEX, 50 for DEFIP DEFIP detected in field blank		3	ND	1,100	ND	5,300	8,200	NO	YES	NO	YES	YES		

TABLE 5 L.E. CARPENTER - Wharton, New Jersey Quarterly Groundwater Monitoring Data

	SAMPLING	G DATE			CHEMICA	L ANALYSIS RI	SULTS			ABC	OVE NJGWQS	
MONITORING WELLS	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Eiliyihexylphthalate (DEHP)					
			ug/l	ug/l	ug/i	ug∕l	ug/l	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
NEW JERSEY GROUND	VATER QUALITY STAN	DARDS (NJCAVQS)	1	700	1,000	40	30	l				
MW-25(R)	1995	1	NS	NS	NS	NS	NS			1	-	-
		2	ND	ND	ND	ND	1.6	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	
		4	ND	ND	ND	ND	68	NO	NO	NO	NO	YES
	1996	1	NS	NS	NS	NS	NS			1	-	-
		2	NS	NS	NS	NS	NS	-		-	1	-
		3	ND	0.34	ND	2.2	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	13.5	ND	89	63	NO	NO	NO	YES	YES
		3	ND-	4.1	- ND	30.7	NS	NO-	NO	NO	NO	
		4	NS	NS	NS	NS	NS		-			
	1998	1	ND	0.33	ND	1.5	NS	NO	NO	NO	NO	-
		1 duplicate	, ND	0.39	ND	0.94	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	5.3	NO	NO	NO	NO	NO
		3	ND .	ND	ND	ND .	NS	NO.	NO	NO	NO	_
		4	ND	ND	ND	ND	1.9	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		2	ND	ND	ND	14	ND	NO	NO	NO	NO	NO
		3	ND	0.39	ND	1.4	9,6	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	, 1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	ΝO	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	Field ID MW-25RD	3duplicate	NS	NS	NS	NS	ND	_	-	1		NO
		4	ND	0.33	ND	1.1	3.4	NO	NO	NO	NO	NO
DEFIP found in lab blank	2001	1	ND	ND	ND	ND	1.9	NO	NO	NO	NO	NO
DEHP found in lab blank		2	ND	ND	ND	ND	1.4	NO	NO	NO	NO	NO
		3 3 ^{duplicate}	ND	ND	ND	ND	0.5	NO	NO	NO	NO	NO
	Full ID: MW-25D	3 authorized	NS	NS	NS	NS	1.2	<u> </u>				NO

TABLE 5 L.E. CARPENTER - Wharton, New Jersey Quarterly Groundwater Monitoring Data

	SAMPL	ING DATE			CHEMICA	L ANALYSIS R	ESULTS		ABOVE NJGWQS?					
MONITORING WELLS	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	his-2-Ethylhexylphthalate (DEHP)							
5.1.1			ug/l	ug/l	ug/l	ug/l	ug/l	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP		
NEW JERSEY GROUNDW	ATER QUALITY ST	ANDARDS (NJGWQS)	1	700	1,000	40	30	ļ						
Trip Blank	1995	1	ND	ND	ND	ND	NS	NO	NO	NO	NO			
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	_		
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-		
		4	ND	ND	ND	ND	NS	NO	NO	NO	NO	-		
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO			
		2	NS	NS	NS	NS	NS	-	-	-		-		
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-		
		4	ND	ND	ND	ND	N\$	NO	NO	NO	NO			
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-		
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO		
		3	ND	_ ND -	ND.	ND.	NS	-NO	-NO	NO	NO	19.0		
		4	NS	NS	NS	NS	NS	-		-	-	-		
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO			
		2	ND	ND	ND	ND.	ND	NO	NO	NO	NO	NO		
		3	ND	ND	ND	ND	NS	NO	NO.	NO	NO	-		
		4	ND	ND	ND	NS	1.3	NO	NO	NO		NO		
	1999	1	ND	ND	ND	NS	ND	NO	NO	NO	-	NO		
		2	ND	ND	ND	NS	ND	NO	NO	NO	-	NO		
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO		
		4	ND	ND	ND	ND	NS	NO	NO	NO	NO			
	2000	1	NS	NS	NS	NS	ND	-	-	-	-	NO		
		1	NS	NS	NS	NS	ND				-	NO		
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO			
		3	NS	NS	NS	NS	ND	-	-	-	-	NO		
		4	ND	ND	ND	ND	NS	NO	NO	NO	NO	-		
DEHP found in lab blank	2001	1	NS	NS	NS	NS	0.6		-	-	-	NO		
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	-		
Performed for Lab No N057 (MW22R DRIP) ple) GTL forgot to sample DEFP at this well on first round		3	NS_	NS	NS	NS	ND			-		NO		
		3	NS	NS	NS	NS	ND			1		NO		

TABLE 5 L.E. CARPENTER - Wharton, New Jersey Quarterly Groundwater Monitoring Data

	SAMPLI	NG DATE			CHEMICA	L ANALYSIS RI	SULTS			ABC	OVENJGWQS	?
MONITORING WELLS	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)					Line Paled and although (DEI
			ug/l	ug/l	ug/l	ug/l	ug/l	Benzene	Ethylbenzene	Toluene	Total Xylenes	his-2-Ethylhexylphthalate (DEI)
NEW JERSEY GROUNDWA	ATER QUALITY STA	NDARDS (NJCHQS)	1	700	1,000	40	30					
Field Blank	1995	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		2	ND	0.73	ND	ND	1.3	NO	NO	NO	NO	NO .
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	<u>-</u>
		2	NS	NS	NS	NS	NS		-			<u> </u>
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	1997	1	ND	ND	0.2	ND	NS	NO	NO_	NO	NO	-
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	
		4	NS	NS	NS	NS	NS -	-	-	-		
	1998	1 1	ND	ND	ND	ND	NS	NO	NO	NO	NO	<u> </u>
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
 		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	<u> </u>
		4	ND	ND	ND	ND	1.3	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	1///	2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1 1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	
		1 1	NS	NS	NS	NS	3.2		-	-		NO
		1 2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2001	1 1	ND	ND	ND	ND	1,3	NO	NO	NO	NO	NO
DEHP found in lab blank DEHP found in lab blank	2001	1 2	ND	ND	ND	ND	2	NO	NO	NO	NO	NO
Performed for Lab No NOV (MWZZR DEHP mple). STL forgot to sample DEHP at this well		3	NS	NS	NS	NS	1.2		_			NO
on first round		3 3	ND ND	ND	ND	ND	ND	NO	NO	NO	NO	NO

LECEND LECEND

mg/L = micrograms per liter

NJGAVQS = New Jersey Groun

ROD: Record of Decision

NA = Not Applicable

NS = Not Sampled

ND: No Detection

Values in BOLD FONT ere above BOTH the NIDEP NICKYQ3 and the ROD Discharge Criteria

— Used when comparison against 8 nown standards does not apply as the well two not sampled (NS) for as a

[3] MW-11 (DR) sampled for both DEHP and BTEX on of NIDEP letter dated Nev 23, 1998 (one time sample round-baseline concentration)

[3] MW-11 Dr equired to be sampled quarterly per NIDEP letter dated August 17, 1999 Third quarter 1999 sampling was performed prior to receiving the NIDEP letter Statequently, the well was only sampled for DEHP. Stating 4th quarter 1999, MW-11D will be sampled for both DEHP and BTEX per and native and prior to receiving the NIDEP letter dated August 17, 1999 Third quarter 1999, MW-11D will be sampled for both DEHP and BTEX per and native and prior to receiving the NIDEP letter dated August 17, 1999 Third quarter 1999, MW-11D will be sampled for both DEHP and BTEX per and native applied for DEHP. Stating 4th quarter 1999, MW-11D will be sampled for both DEHP and BTEX per and native applied for DEHP. Stating 4th quarter 1999, MW-11D will be sampled for both DEHP and BTEX per and DEHP. Stating 4th quarter 1999 the property of the sampled for both DEHP and BTEX per and

Table 6 L.E. Carpenter, Wharton, New Jersey

Groundwater	Elevation Table
-I O MI IM IT MICE	DIC A GROSS T GOTE

WELL		·		₩ ĘI	LL INSTALLATION	AND CONSTRUC	TION INFOR	MATION ⁽⁷⁾				PROI	FESSIONAL SURVI	EY INFORMATIO	N	ELEVA	TIONS (FI	. MSIA	1			ADTEDI VA 18	A COLUMN TO A TO A TO A TO A TO A TO A TO A TO	NTORMATION (6)	
LOCATION	WELL TYPE	MANAGING	INSTALLATION	TOTAL WELL	WELL	SCREEN	SLOT	TOP OF	BOTTOM OF	SCREENED	AQUIFER	BASELINE LOCA	ATION (feet) ^(h)	GEODETI	LOCATION		OUTER	T	MEAS.	PRODUCT	T		WATER	PRODUCT	CORRECTED WATER
CW-1	Caisson Well	CONSULTANT	DATE	DEPTH (FT)	DIAMETER (IN)	MATERIAL	SIZE (IN)	SCREEN (PT)	SCREEN (FT)	INTERVAL (FT)	SYSTEM	(Y) North	(X) East	LATITUDE	LONGITUDE	GROUND	CASING	WELL	DATE	DEPTH	DEPTH	ELEVATION	i		LEVEL ELEVATIONS (2)
CW-3	Caisson Well	ROY F. WESTON		- : -		-	•	-	•	-		754247.22	471142.06	40° 54' 14.2"	74°34'34.7"	630.83	634.35		24-Jul-01	1		ELEVATIO.		THICKNESS (A)	CEVEL ELEVATIONS
GEI-1I	Piezometer	ROY F. WESTON			<u> </u>			-		J		754203.93	471309,9	40° 54' 13.8"	74°34' 32.5°	628.63	633.30		24-jul-01	 	7.73		623.10		
GEI-2I	Piezometer	ROY F. WESTON	April to October 1989 April to October 1989	44.34	2.00	PVC	0.02	31.62	41.62	10.00	ı	754767.14	471095.56	404 54 19,3*	74°34' 35.3"	628.44		630.78	24-Jul-01		8.05 5.06	-:	620.58 625.72		<u> </u>
GEI-2S	Piezometer	ROY F. WESTON	April to October 1989	46.28 22.21	2.00	PVC	0.02	31.50	41.50	10.00	1	754573.99	470499.76	40° 54' 17.4°	74°34' 43.1"	635.92	638.35		24-jul-01	 	11.51	 	626.69	<u> </u>	_
GEI-3I	Piezometer	ROY F. WESTON	April to October 1989	53.29	2.00	PVC	0.02	10.00	20.00	10.00	S	754566	470506.18	40° 54' 17.3°		635.46	637.87		24-jul-01	4	11,31		626.36	-:	
MW-1(R)	Monitoring Well	ROY I. WESTON	February 3, 1995	22.50	4.00	STEEL	0.02	30.00 7.00	40.00	10.00	<u> </u>	754311.79	470453.7	40° 54' 14.8"		637,56	639.99		24-Jul-01		13.75		626.10		
MW-2(R)	Monitoring Well	ROY F. WESTON	January 30, 1995	13.00	2.00	PVC	0.01	2,00	22.50 12.00	15.50	5	754207.21	470825.97	40° 54' 13.8"		635,79	635.78	635.47	24-Jul-01	10.02	11.36	625.45	624.11	1.34	625,36
MW-3	Monitoring Well	WEHRAN ENG.	May 15, 1980	27.00	2.00	STEEL	0.01	1.50	27.00	10.00 25.50	S	754272.74	471267.56	40° 54' 14.4"	74°34'33,1"	629.06	632.28		24-Jul-01		7.11		625.03		
MW-4 ⁽³⁾	Monitoring Well	WEHRAN ENG.	May 20, 1980	27.00	2.00	STEEL	0.01	1.50	27.00	25.50	5	754227.41 754070.52	471302.62	40° 54' 14.0°	74°34'32,6°	628.64	632.27		24-Jul-01	7.38	7.51	625.18	625.05	0.13	625.17
MW-6(R)	Monitoring Well	ROY F. WESTON	January 25, 1995	10.98	2.00	PVC	0.02	0.98	10.98	10.00	5	754070.52 754210.83	471162.53	40° 54' 12.4"		628.86	632.31		24-Jul-01	- 4	7.30	-	625.20	-	•
MW-8 ⁽⁹⁾	Monitoring Well	GROUNDWATER	1983	10.00	• • • •							/34210.83	471191.61	40° 54' 13,8"	74°34'31.1"	629.82	632.64	632.42	24-Jul-01	·	7.12		625.30	-	
MW-9 ⁵⁹	Monitoring Well	GROUNDWATER	1983	19.00	2.00	STEEL	0.02	0.00	19.00	19.00	5	754099.29	471251,06	40° 54' 12.7"	74°34' 33.3"	627.99	630.56	628.79	24-Jul-01	-	3.51		625.28	-	•
MW-119	Monitoring Well	TECHNOLOGIES		20.50	2,00	STEEL	0.02	0.50	20.00	19.50	S	754075.94	471111.03	40° 54' 12.5"	74°34' 35.1"	629.21	631.69	630.18	24-Jul-01		4.82		625.36		
MW-111(R)	Monitoring Well	ROY F. WESTON RMT, INC.	April to October 1989 February 20, 1998	14.73	4.00	STEEL	0.02	4.37	14.41	10.00	S	754226.73	471126.83	40° 54' 14.0"	74°34'34.9°	631.23	633.26	632.96	24-Jul-01	7.89	12.95	625.07	620.01	F	70.22
(W-11D(R) (5)	Monitoring Well	RMT, INC.	February 20, 1998	52.00 157.00	2,00	STEEL	0.01	42.00	52.00	10,00	1 1	754237.94	471128.05	40° 54' 14.1"	74 34 34.9	630.89	633.67		24-Jul-01	1.07	8.13	623:07	625.20	5.06	624,75
MW-125(R)	Monitoring Well	ROY F. WESTON	May 7, 1996	14.45	4.00	STEEL	0.01	147.00	157.00	10.00	D	754244.62	471124.66	40° 54' 14.2"	74°34'34.9"	630.66	633.35		24-Jul-01		5.87	<u> </u>	627.22		
MW-13S	Monitoring Well	ROY F. WESTON	April to October 1989	16.39	4.00	PVC STEEL	0.02	2.45 5.37	14.45	12.00	5	754055,97	471042.34	40° 54' 12.3°		632.17	634.86		24-Jul-01		9.03		625,30		
MW-13S(R)	Monitoring Well	ROY F. WESTON	January 27, 1995	17.00	2.00	PVC	0.02	2.00	15.14 12.00	10.00	S	754353.97	471370.04	40° 54' 15.3°	74°34'31,7"	628.34	631.40		24-Jul-01		5.98	-	625.25		
MW-13I	Monitoring Well	ROY F. WESTON	July 31, 1989	46.30	2.00	STEEL	0.02	35.22	45.26	10.00	1	754333.07	471365.71	40° 54' 15.0"	74°34'31.8"	628.26	630.96		24-Jul-01		5.60	-	624.99	-	
MW-148	Monitoring Well	ROY F. WESTON	April to October 1989	15,46	4.00	STEEL	0.02	3.42	13.46	10.00	S	754337.8 754255.02	471360.31	40° 54' 15.1°	740,34131,91	628.36	630.88		24-Jul-01		5:58		625.08	-	
MW-14[⁽³⁾	Monitoring Well	ROY F. WESTON	April to October 1989	44.30	2.00	STEEL	0.02	33.22	43.26	10.00	1	754250.22 754250.22	471423.66		74°34' 37.0"	623.79	628.53		24-Jul-01	·	3.78		624.63	-	•
MW-155 69	Monitoring Well	ROY F. WESTON	April to October 1989	25.94	4.00	STEEL	0.02	9,37	19.41	10.00	s	754326.58	471409.52 470891.83		74 34 31.2"	625,93	623:32		24-Jul-01	-	3.33		624.90	-	
MW-151 69	Monitoring Well	ROY F. WESTON	July 17, 1989	43.92	2.00	STEEL	0.02	30.55	40.26	10.00	i	754325.8	470901.47	40° 54' 15.0°		634.83	637.03		24-Jul-01		11.31		625.46		-
MW-165	Monitoring Well	ROY F. WESTON	April to October 1989	23,90	4.00	STEEL.	0.02	7.37	17.41	10.00	s	754424.11	470704.1	40° 54' 15.0° 40° 54' 15.9°	74°34' 37.9"	634.74	636.88		24-Jul-01	-	11.20		625.46	-	
NIW-161	Monitoriae Well		April to Comber 1989	46,53	2.00	STEEL	0.02	32.22	42.2é	10.00	1	754435.1	470710.17	40° 54' 16.0°	74°34' 40.4" 74°34' 40.3"	632.43	634.69 635.08		24-Jul-01		8.52		625.95		
MW-175 MW-185	Monitoring Weil Monitoring Well		April to October 1939	15.04	4.00	STEEL	0.02	5.20	15.24	10.00	5	7541c/les	470759.65	ii 40 54 12.8°		632.95	634.92	634.79	24-Jul-01 24-Jul-01		9.01 9.27		625,95		
MW-181	Monitoring Well	ROY F. WESTON ROY F. WESTON	April to October 1989 April to October 1989	15.04	2.00	STEEL	0.02	4.37	1441	10.00	S	754677.95	471117.26	40° 54' 18.4"		628.22			24-Jul-01		5.63	-	625:52 625.63		
MW-19	Monitoring Well	ROY F. WESTON	May 20, 1991	44.69 17.00	2.00	STEEL	0.02	34.22	44.26	10.00	I	754675.11	471106.07	400 54 18.4	74°34' 35.2"	628.35	631.19		24-jul-01		5.38		625.66	<u> </u>	
MW-19-1	Monitoring Well	RMT, DIC.	February 17, 1998	17.00	4.00	STEEL	0.02	7.00	17.00	10.00	5	754537.15	470454.45	40° 54' 17.1"		636,72	639.24		24-Jul-01		12.47		626.41		<u> </u>
MW-19-2	Monitoring Well	RMT, INC.	February 17, 1998	16.00	4.00	STEEL	0.01	6.00	15.50	9.50	S	754534.52	470427,63	40° 54' 17.0°	74°34' 44.0"	636,50	639.26	638.86	24-Jul-01		12.45		626.41		
MW-19-3	Monitoring Well	RMT, INC.	February 18, 1998	16.00	4.00	STEEL STEEL	0.01	6.00	16.00	10.00	<u> </u>	754551.81	470429.56	40° 54' 17.2"	74 34 44.0	637.05	639,36	638.76	24-Jul-01		12.34	-	626.42		
MW-19-4	Monitoring Well	RMT, INC.	February 18, 1998	16.00	4.00	STEEL	0.01	6.00	15.50 15.50	9.50 9.50	S	754539.4	470394.2	40° 54' 17.1"	74 34 44.5	637.54	640.04	639.65	24-Jul-01	-	13.20	-	626.45	-	
MW-19-5	Monitoring Well	RMT, INC.	February 18, 1998	16.00	2.00	PVC	0.01	6.00	15.50	9.50	S	754505.39	470432.08	40° 54' 16.7"	71°34' 44.0"	636:27			24-Jul-01	-	11.24		626.50	-	•
MW-19-6 ⁶⁹	Monitoring Well	RMT, DVC.	October 28, 1999	20.00	2.00	STEEL	0.02	10.00	20.00	10.00	s	754565.53	470470.75	40° 54' 17.3°	74°34' 43.5"	636.39	639,07		24-Jul-01		12.39		626.35		
**************************************	Marie ethic West	PLAS, DIC.	Couples 20 tanà	20.00	2.00	STEEL	0.02	10.00	20.00	10.00	s	754578.87 754595.66	470443.1	40° 54' 17.5°	74°34' 43.8"	636.78		636.44	24-Jul-01		10.03		626,41	-	
1.1.V-13-8 (*	Alaratoring Well	RMT, INC.	October 23, 1999	20.00	2.00	STEEL	0.02	11.00	20.00	9.00	- s -	754617.42	470501.7 470493.65		74°34' 43.1"	636.00	636.00		24-jul-01	:	9.27		626,33	•	- •
MW-20	Monitoring Well	ROY F. WESTON	May 21, 1991	14.00	4:00	STEEL	0.02	4.00	14.00	10.00	<u>s</u>	754550,52	470647.25	40° 54' 17.8"	74°34' 43.2°	636.44	636.44		24-Jul-01		9.63	• •	626,33		
MW-21 (5)	Monitoring Well	ROY F. WESTON	May 22, 1991	15.00	4.00	STEEL	0.02	5.00	15.00	10.00	S	754240.97	471645.78	40° 54' 17.2" 40° 54' 14.1"	74°34' 41.2" - 74°34' 28.2"	634.82 625.17	637.03 629.09		24-Jul-01	_ : : -	10.57		626,20		
MW-23 MW-23		ROY F. WESTON	July 22, 1997	7.50	2.00	STEEL			· ·		S	754200,52	471409.13	40° 54° 13.7°		623.04			24-Jul-01 24-Jul-01	· •	4.15	:	624.65		
MW-25(R) ⁽³⁾	Monitoring Well	ROY F. WESTON	January 6, 1992	6.00	2.00	STEEL	0.02	1.00	6.00	5.00	S	754413.43	471469.4		74°34'30.5"	628.70		630.64			3.37 4.62	<u>-</u> ;	624.74		<u> </u>
MW-26	Monitoring Well	ROY F. WESTON	July 22, 1997 May 8, 1996	10.00	2.00	STEEL				-	S	754201.83	471518.21		74 34 30.5 74 31 29.8"	625.25		627.22	24-jul-01		2,80	-:-	626.02 624.42		· · · · · · · · · · · · · · · · · · ·
RW-1	Recovery Well	ROY F. WESTON	June 17, 1991	11.80 30.00	4.00	PVC	0.02	1.80	11.80	10.00	S	754401.17	471174.36		74"34"34.3"	630.84	634.39		24-Jul-01		8.06		625.20		-
RW-2	Recovery Well	ROY F. WESTON	June 22, 1991	30.00 i	8.00 8.00	STEEL	0.02	5.00	30.00	25.00	S	754183.96	470802.1		74°34'39.1*	635.19	637.81		24-Jul-01	11.93	12.12		625.26	0.19	625.44
RW-3	Recovery Well	ROY F. WESTON	June 21, 1991	28.00	8.00	STEEL STEEL	0.02	3.00	30.00	27.00	5	754245.98	471289.8	40° 54' 14.2"	74°34' 32.8°	629.80	631.78	631.68	24-Jul-01		6.69		624.99	• • •	623.44
SG-D1 (1)	Drainage Channel Staff Gauge	RMT, P.C.	November-9)	NA NA	NA NA	NA NA	0.02 NA	3.00 NA	28.00 NA	25.00 NA	S NA	754315.59 754428.57	471206.84 471240.37	40° 54' 14.9"	74°34'33.9"	629.89	632.15	631.99	24-Jul-01		6.89		625.10		
SG-D2 ^(t)	Drainage Channel Staff Gauge	RMT, INC.	November-98	NA	NA	NA	- NA	NA NA	NA NA	NA NA				-		626.41			24-Jul-01	· ·	1.36		624.44	-	
SG-D3 ^(t)	Drainage Channel Staff Gauge	RMT, INC.	November-98	NA .	. NA	NA NA	NA NA	NA NA			NA	754285.43	471361.24	ļ <u>-</u> -		626.86	•		24-Jul-01	·· •	0.88	- !	624.41	_ • •	•
SG-R1 ⁽⁰⁾	Rockaway River Staff	RMT, INC.	November-98	NA .	· NA				NA NA	NA NA	NA	754381.47	471548.31	-	-	626.43	<u>. </u>		24-Jul-01	<u>'</u> .	1.38		624,48	-	<u>-</u>
SG-R2 ^(t)	Gauge Rockaway River Staif	RMT, INC.	November-98	NA NA	NA NA	NA NA	NA NA	NA NA	NA	NA	NA	754313.99	470408,70	-	-	641.52	-	-	24-Jul-01	· -	1.32	-	639,51	•	<u>-</u>
SG-R3 ^(t)	Gauge Rockaway River Staff	RMT, INC.	November-98	NA NA	· NA	NA NA	NA NA	NA NA	NA	NA	NA	754056.10	470949.16	-	•	628,84	-	-	24-jul-01		0.64	-	626.15	-	-
	Gauge				W	NA	NA	NA	NA	NA NA	NA	754113.47	471426.67			627.38		l . Î	24-Ju!-01	1		Inaccessible		T.	

Table 6 L.E. Carpenter, Wharton, New Jersey

Groundwater Elevation Table

WELL				WH.	LL INSTALLATION A	AND CONSTRUC	TION INFO	RMATION (7)				PROI	FESSIONAL SURVE	Y INFORMATION		ELEVAT	TIONS (FT.	MSD	1	.1		APTERI VAG	A CI TO PA CEAUT IS	NTORMATION ⁽⁶⁾	
LOCATION	WELL TYPE	MANAGING	INSTALLATION	TOTAL WELL	WELL	SCREEN	SLOT	TOP OF	BOTTOM OF	SCREENED	AQUIFER	BASELINE LOCA	ATION (feet) ⁴⁹	GEODETIC	LOCATION		<u> </u>		MEAS.	PRODUCT		PRODUCT	WATER	PRODUCT	CORRECTED WATER
		CONSULTANT	DATE	DEPTH (FT)	DIAMETER (IN)	MATERIAL	SIZE (IN)	SCREEN (FT)	SCREEN (FI)	INTERVAL (FI)	SYSTEM	(Y) North	(X) East	LATITUDE	LONGITUDE	GROUND	CASING	WELL	DATE	DEPTH	DEPTH	ELEVATION	ELEVATION	THICKNESS (#8	LEVEL ELEVATIONS (2)
WP-A1		ROY F. WESTON	1993			<u> </u>	<u> </u>	-		L .		754220.52	470825.71	40° 54' 13.9"	74°34' 38.8°	636.29	636.32	639.81	24-Jul-01	10.29	11.34	625.52	624.47	1.05	695.45
WP-A2 WP-A3	Area A Well Point	ROY F. WESTON	1993	- : :	<u> </u>		<u> </u>	-	<u> </u>			754249.34	470813,05	40° 54' 14.2°	74°34'39.0"	637.31	639.62		24-Jul-01	- 44.27	11.54			- NOT EVALUATED	625.45
WP-A3	Area A Well Point		1993	 		<u> </u>	<u> </u>				- }	754195.42	470717.12	40° 54' 13.7"	74°34' 40.3°	635,97	635.97		24-jul-01	 	10.07	DL. 11 /	625.49	- NOI EVALUATED	<u> </u>
WP-A5	Area A Well Point Area A Well Point		1993		·	<u> </u>	<u> </u>	-		-	- 1	754229.46	470855.24	40° 54' 14.0°	74°34'38.5°	635.63	635.66		24-Jul-01	11.37	12.69	623,73	622.41	1.32	623,65
WP-A6	Area A Well Point		1993 1993				<u> </u>		-			754266.54	470886.02	40° 54' 14.4"	74°34'38.1°	635.70		637.85		1	12.51	020.75	625.34	- 1.02	623,03
WP-A7	Area A Well Point		1993	13.00	2.00	PVC	<u> </u>	3.00	13.00	10.00	S	754184.69	470888.45	40° 54' 13.6°	74°34'38.0°	634.95		637.28	24-ful-01	11.91	14.12	625.37	623,16	2.21	625,23
WP-A8	Area A Well Point		1993		2.00	PVC	<u> </u>	1.00	11.00	10,00	S	754196.44	470999.43	40° 54' 13,7"	74°34'36.6°	632.94		63L88	24-Jul-01	-9.72	13.51	625,16	621.37	3.79	624,92
WP-A9		ROY F. WESTON	1993	16.00	2.00	PVC	<u> </u>	•			اـــنـــا	754260.25	470998.97	40° 54' 14.3°	74°34'36,6°	634.70		637.56	24-Jul-01	12.22	1434	625.34	623.22	2.12	625,20
WP-B1		ROY F. WESTON	1993	11.00	2.00	PVC	<u> </u>	6.00	16.00	10.00	5	754184.12	470935.26	40° 54' 13.6"	74 34 37.4	637.22		639.32	24-Jul-01	13.87	16.16	625.45	623.16	2.29	625,30
WP-B2	Area B Well Point		1993	11.00	2.00	PVC	 	1.00	11.00	10.00	- S	754218.63	471068,54	40° 54' 13.9"	74°34'35,7°	631.85		633.65	24-Jul-01		7.49	•.	626.16		•
WP-B3	Area B Well Point		1993	11.00	2.00	PVC	<u> </u>	1.00	11.00 11.00	10.00	5	754282.8		40° 54' 14.5°		630.48	632.58	632.25	24-Jul-01		6.99	-	625.26	-	•
WP-B4	Area B Well Point		1993					1.00	11.00	10.00		754243.43	471088.51	40° 54' 14.2"		631.71		633.33	24-Jul-01		7.60	-	625.73		-
WP-B3	Area B Well Point		1993	11.00	2.00	PVC	<u> </u>	1.00	11.00	10.00		754275.31	471156.49	40° 54' 14.5"	74°34'34.5"	629,93		632,56	24-Jul-01	-7.31	8.96	. 625:25	623,60	1.65	625.14
WP-B6	Area B Well Point		1993	-				1.00	11.00	10.00		754296.93	471181.49	40° 54' 14.7'		630.03		632.11			5.94	-	626.17	-	-
WP-B7	Area B Well Point		1993									754171.56 754179.91	471223.53	40°54' 13.4"		629,72	L	631.86	24-Jul-01		7.03	-	624.83	-	-
WP-B10	Area B Well Point	ROY F. WESTON	1993	-								754319.10	471330.82	40°54' 13.5"	74°34'32.3"	627.62		629.49	24-Jul-01	_	5.02	-	624.47		
WP-C1	Area C Well Point	ROY F. WESTON	1993	1		-						754087.66	471144.76 471038.32	40° 54' 14.9"	74°34'34.7		633.12	632.74	24-Jul-01	ļ	7,55		625,19		
WP-C2	Area C Well Point	ROY F. WESTON	1993					-	:	-	 	754075.97	4/10/4.74	40° 54' 12.6"	7433436,1	632,81	<u> </u>	633.51	24-Jul-01	<u> </u>	8.26		625.25	-	
WP-C3	Area C Well Point	ROY F. WESTON	1993		-	-	<u> </u>				 	754066.60	471009.58	40°54' 12.5'	74°34' 35,6"	633,02		634.46	24-jul-01	 	8.90		625.56	-	-
WP-C4	Area C Well Point	ROY F. WESTON	1993								 	754108.93		40°54' 12.4"	74°34' 36.4"	631.00		632.64	24-Jul-01	L	7.15		625.49	-	-
										<u></u>	<u></u> _	/54106.95	471050.74	40° 54' 12.8°	74°34' 35.9"	632,44	L	633.27	24-Jul-01		8.07	•	625.20	- '	-

- (1) Elevation measured at the top of a 3.33 ft. Staff gauge. Water depth based on a visual observation of the water level on the Staff gauge.
 (2) Corrected water level elevations utilize an average specific gravity of 0.9363 (RMT, Inc. product sampling in October 1999

 6 MW-1(R); EFR-11 & WP-A8)

- Wells included in the quarterly sampling program. Depth to water recorded before purging
 Wells included in the quarterly sampling program. Depth to water recorded before purging
 Wells installed during new Ri efforts par NiDEP and EPA request to further delineate MW19/Hot Spot 1 Area
 Sho boring log or well construction diagram available. Well specific information determined from Weston Geologic Cross Section
 "-" in the Quarterly Measurement Information section of this database indicates that the presence of free product was NOT detected at any measurable thickness and therefore did not generate a product elevation, product thickness nor require water level elevation to be corrected
 "-" in the Well installation and Construction Information section indicates that well construction logs were not available for review
- (8) Horizontal Datum: New Jersey State Plane Coordinate System NAD 83, Vertical Datum: NGVD 29

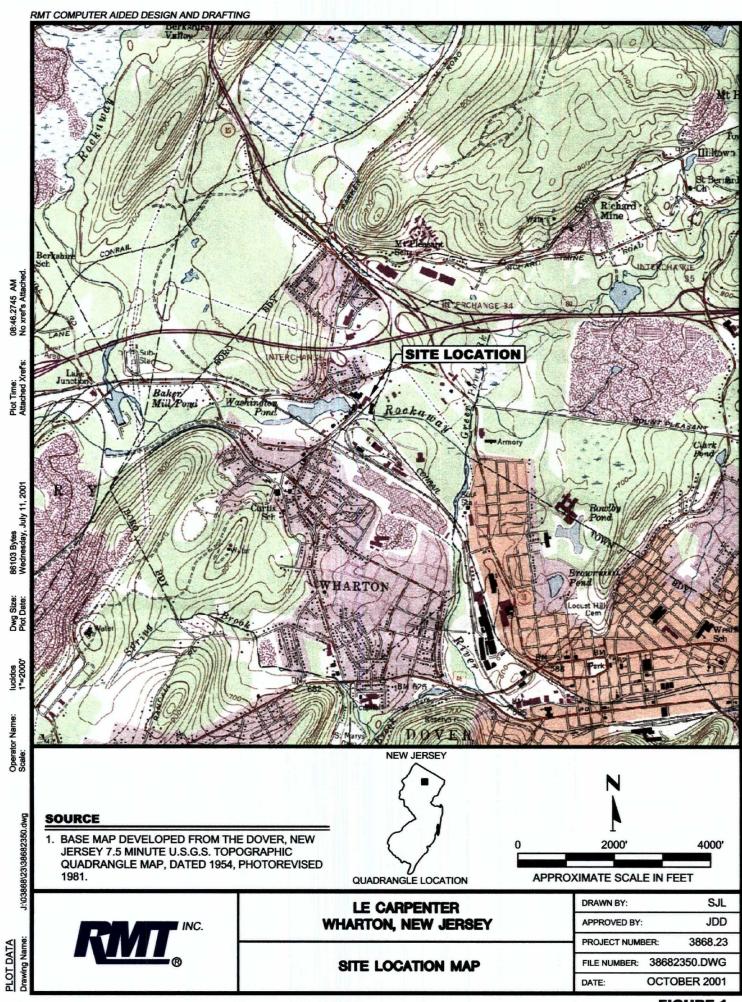
All WP series wells finished elevation is 2 feet above nominal grade. Total depth of well only accounts for subsurface structure

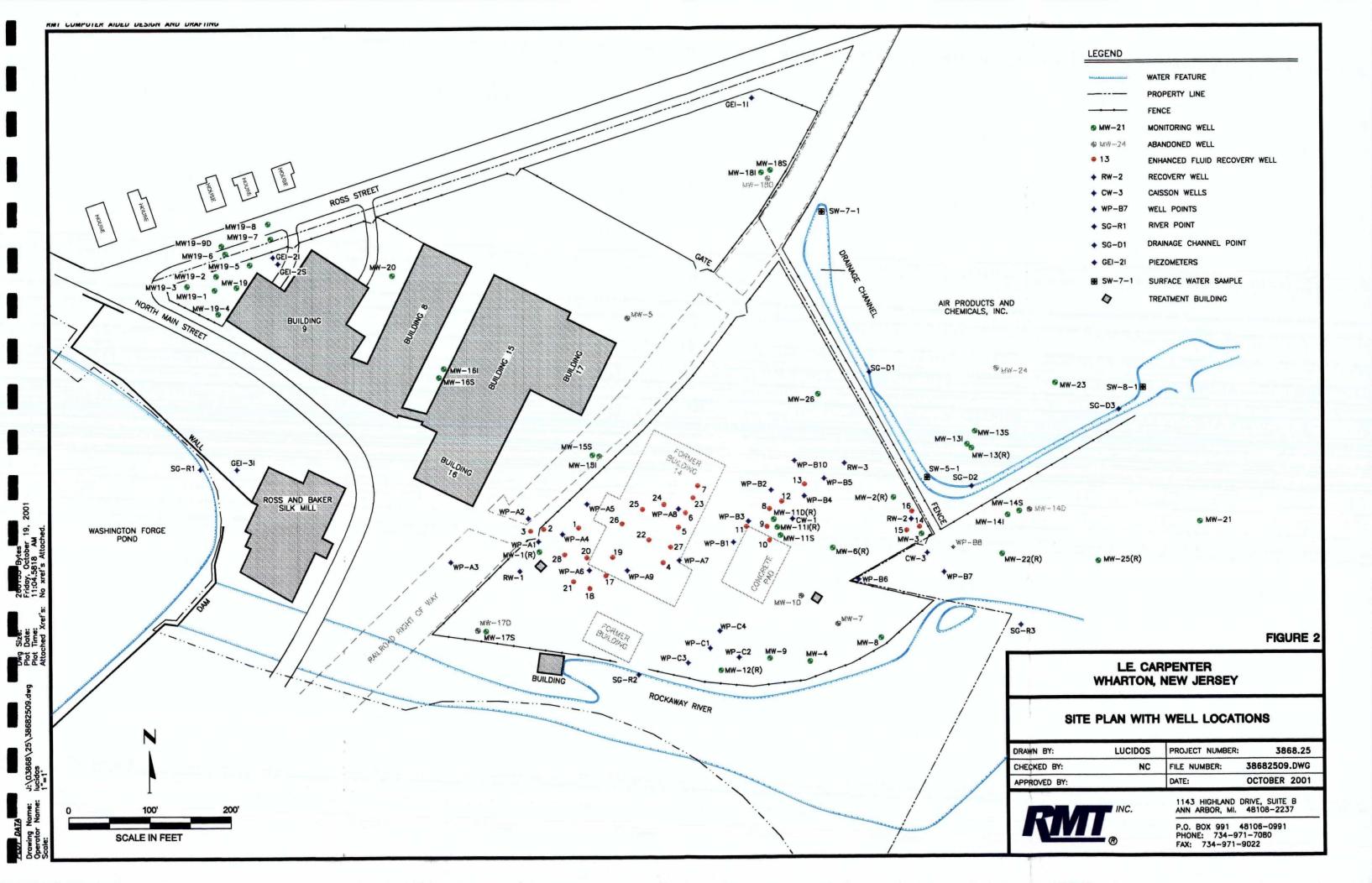
Wells MW-1A, MW-7, MW-10, MW-11I, MW-11D, MW-14D, MW-17D, MW-18D, MW-22, MW-24, MW-23, WP-88, Wp-D1, PZ-6A, PZ-2A(R), PZ-2AS, RW-1 have been abandoned

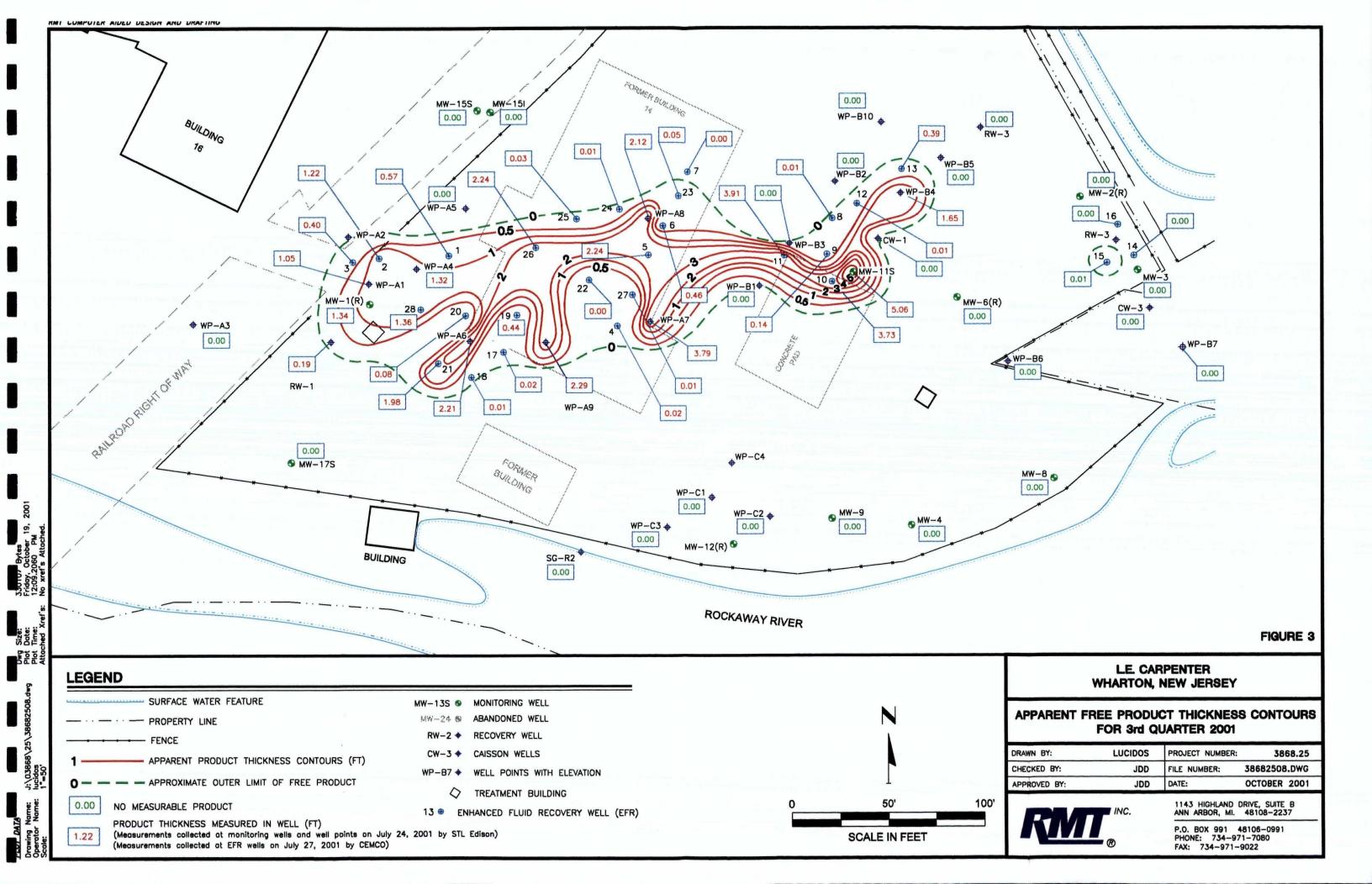
Wells MW-11I(R), MW11-D(R), MW-1(R), MW-2(R), MW-6(R), MW-22(R), and MW-25(R) are replacement wells

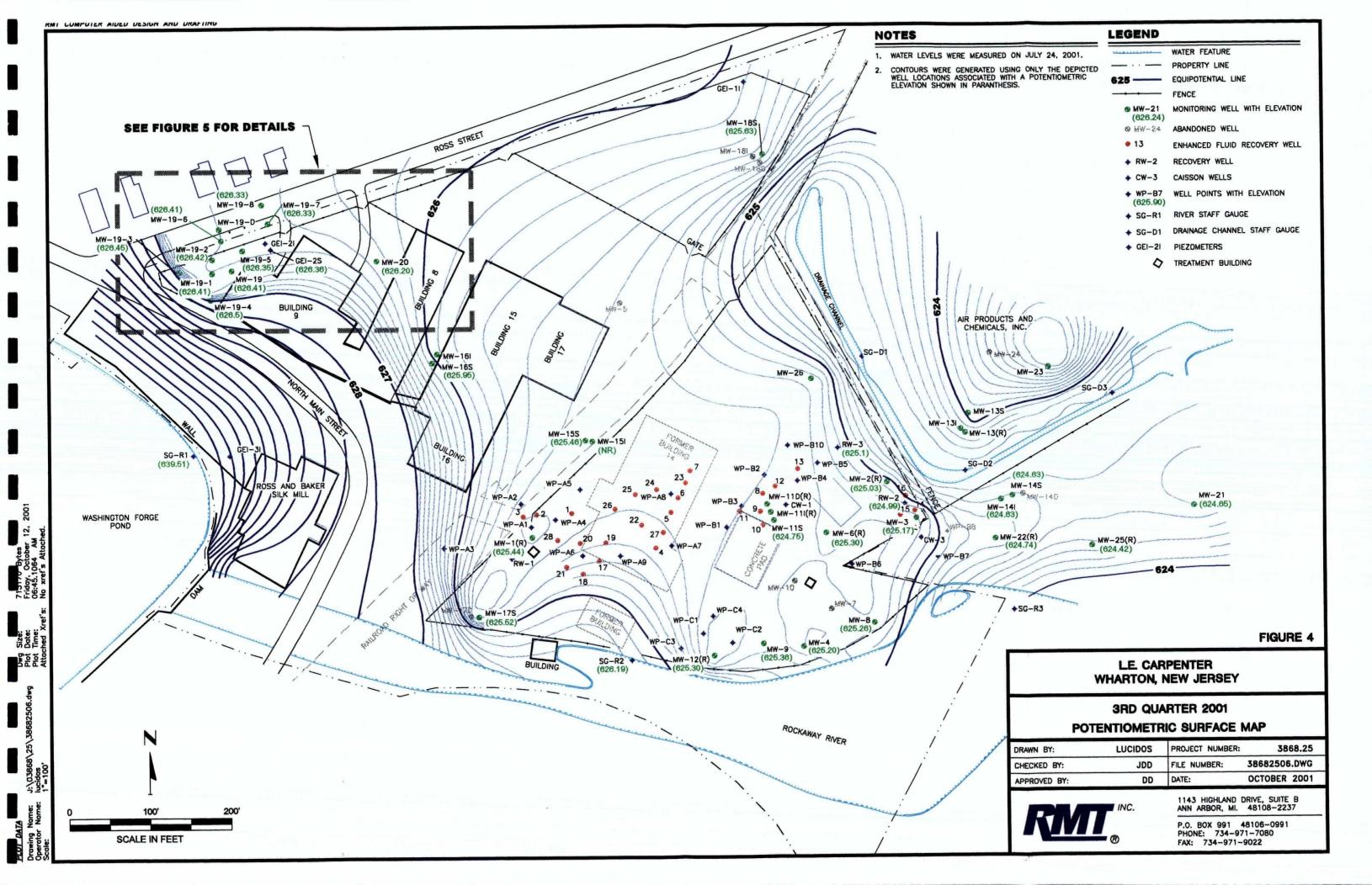
LEGEND

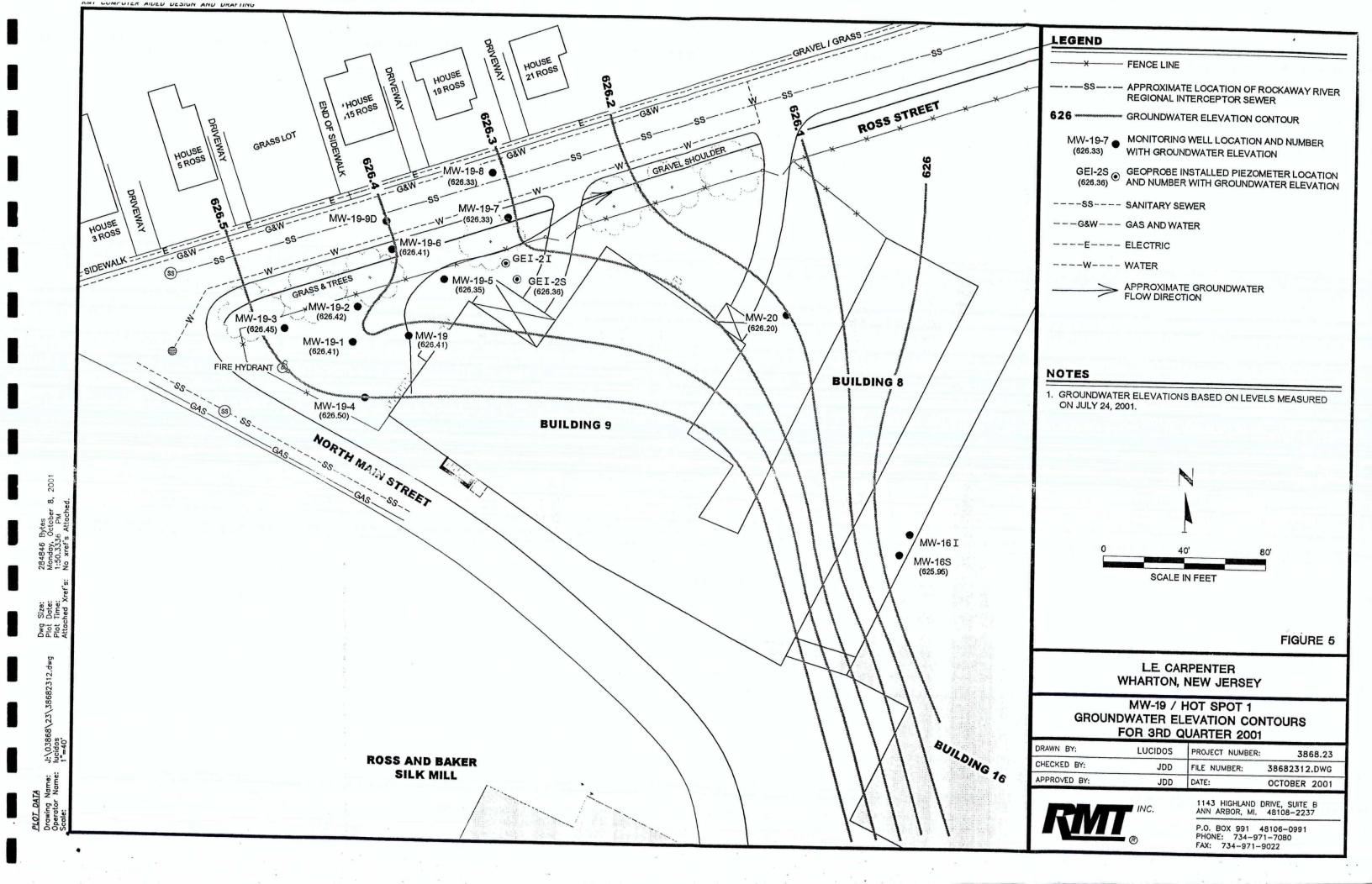
- S: Shallow Aquifer System
- l: Intermediate Aquifer Syst
- D: Deep Aquifer System
 R: Replacement Well
- NAS: Not Assessable
- REM: Removed
- : Value of 0.00. Free Product not encountered at well











Appendix A Report Certification

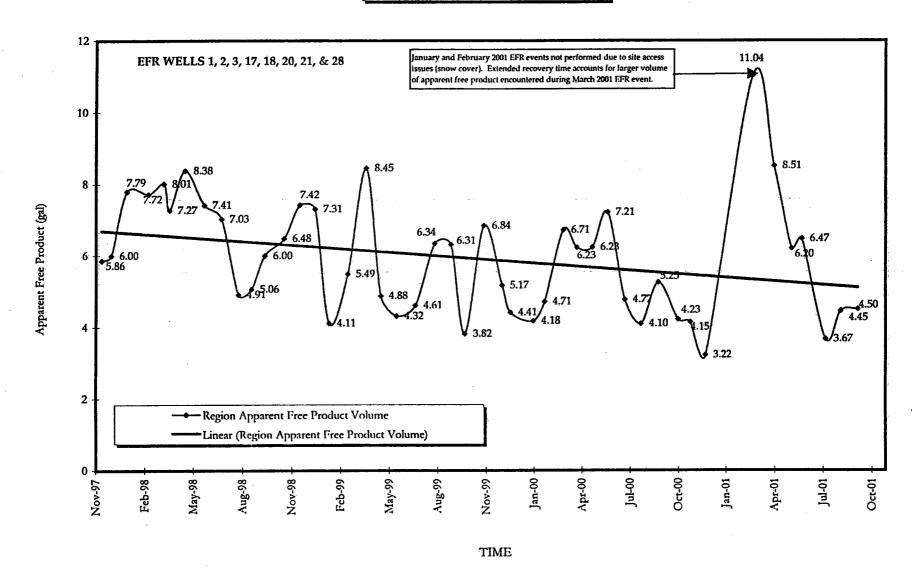
REPORT CERTIFICATION PURSUANT TO N.J.A.C. 7:26E-1.5

"I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement, which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

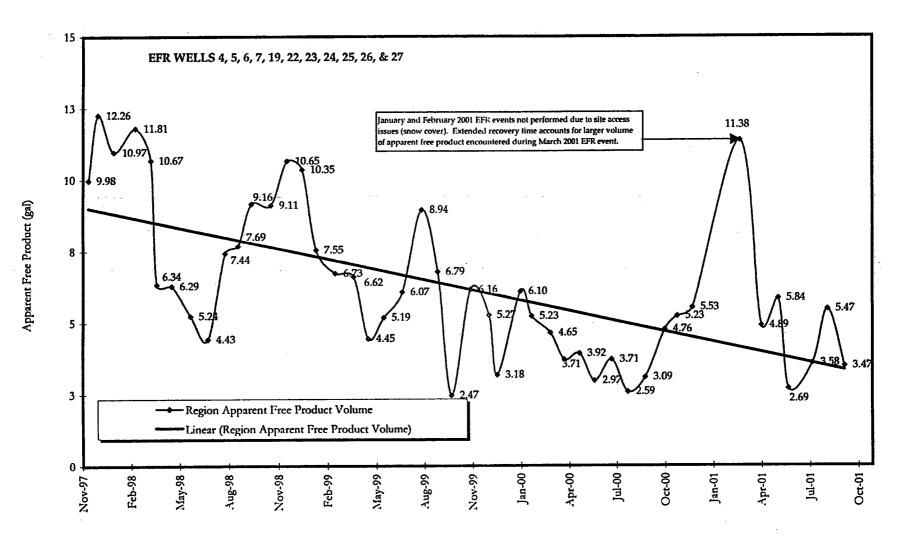
Mr. Cristopher R. Anderson
PRINTED NAME
•
Director, Environmental Services
TITLE
L.E. Carpenter & Company
COMPANY
Custopher Anderson
SIGNATURE
10/22/01
DATE

Appendix B Apparent Free Product Volume Trend Charts

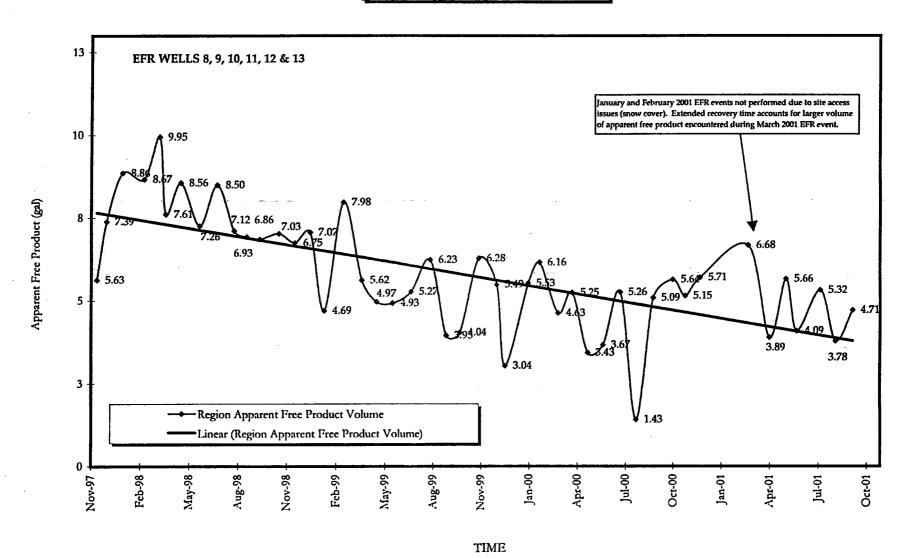
L.E. Carpenter and Company Western Region of Free Product



L.E. Carpenter and Company West-Central Region of Free Product

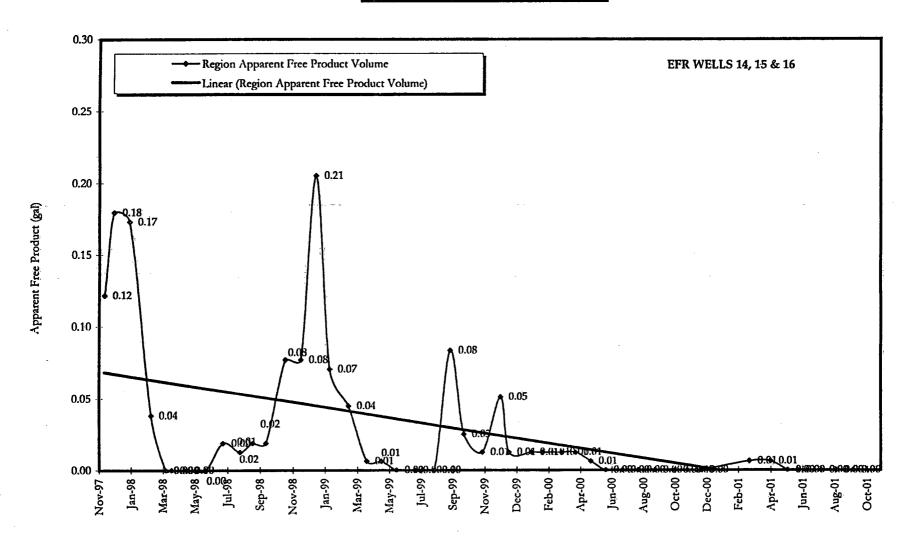


L.E. Carpenter and Company East-Central Region of Free Product



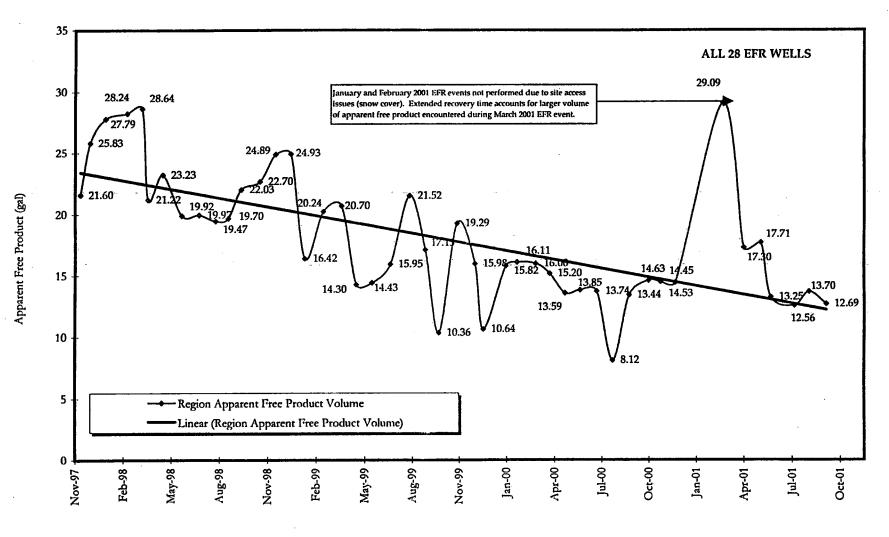
Eastern Region of Free Product

Apparent Free Product Volume vs. Time Through 3rd Quarter 2001



TIME

L.E. Carpenter and Company Total Site Free Product



Appendix C Monitoring Well Sampling Data

Monitoring Well Data

Client: Residual Management Tech.

Project: LE Carpenter

Job No: N007

Date Sampled: 7/24/01

Analyst: R. Toogood

'eil ID	MW15s	MW15I	MW11d	MW4	MW14I	MW22	MW25	MW21
epth to Water From TOC					0.00	2 20	2.80	4.15
et (before purging)	11.31	11.20	5.87	7.30	3.33	3.39	2.60	4.15
epth to Water From TOC et (after purging)	11.35	11.23	6.01	7.94	3.38	6.56	6.45	4.25
epth to Water From TOC	11.31	11.21	5.89	7.32	3.34	3.61	3.93	4.15
et (before sampling) epth to Bottom From TOC		40.14	161.25	18.31	43.32	8.81	9.11	14.68
et	19.48	40.14	101.20	10.01				
ID Reading from Well asing (ppm)	0.0	0.0	0.0	0.0	0 .0	0.0	0.0	0.0
H before Purge	6.05	6.30	6.13	6.51	6.45	6.37	6.77	7.36
emp. before Purge (°C)	21.4	19.4	26.5	21.4	22.3	19.6	22.2	21.1
opm)	4.31	2.81	3.39	0.95	3,56	0.84	1.71	3.13
Cond. before Purge	1.01			7 4 44				
umhos/cm)	226	250	338	353	135	177	180	195
Redox Potential (mV) before ourge	216	193	35	-172	-128	-153	-159	-85
·	5.33	4.72	25.35	1.79	6.53	0.89	1.03	6.87
Vater Volume in Well (gal.)	Peristaltic			Peristaltic	Peristaltic	Peristaltic	Peristaltic	Peristaltic
Purge Method	Pump	Pump	Pump	Pump	Pump	Pump	Pump	Pump
Purge Start Time	9:37	9:41	10:24	13:25	13:53	14:00	14:06	14:45
Purge End Time	10:00	9:57	11:47	13:31	14:15	14:04	14:11	15:05
Purge Rate (gpm)	0.7	0.9	0.9	1.0	0.9	0.8	0.8	1.1
Volume Purged (gal.)	16	1.5	77	6	20	3	3	21
	6.28	6.12	8,17	6.51	7.26	6.48	6.80	7.29
pH after Purge	0.20	9				24.0	10.8	16.5
Temp. after Purge (°C)	16.4	17.2	18.1	16.7	17.6	21.6	19.8	16.5
Diss. Oxygen after Purge (ppm)	2.86	2.54	4.13	0.93	3.19	0.65	1.01	1.18
Cond. after Purge	264	343	257	209	127	160	160	181
Redox Potential (mV) after	-12	-109	10	-151	-106	-152	-109	-28
purge	6.70	6.52	9.09	6.45	7.49	6.70	6.81_	7.43
pH after Sample	18.3	17.9	18.8	16.9	17.7	18.8	19.2	17.9
Temp. after Sample (°C) Diss. Oxygen after Sampling	"						5.90	1.86
(ppm)	3,44	4.50	4.93	2.10	4.34	1.33	3.80	1.50
Cond. after Sample (umhos/cm)	172	238	316	199	133	146	138	180
Redox Potential (mV) after				420	-80	-145	-52	-15
sample	73	15	-1 Teflon	-139 Teflon				Teflor
Sampling Method	Teflon Bailer	Teflon Bailer	9.2	Bailer	Bailer	Bailer	Bailer	Baile
American is a consistent	 	1				1	14:38	15:10

Monitoring Well Data

Client: Residual Managem	nent Tech. Pro	oject: LE Carpenter
Job No: <u>N067</u>	Date Sampled: 7/26/0	1 Analyst: R. Toogood

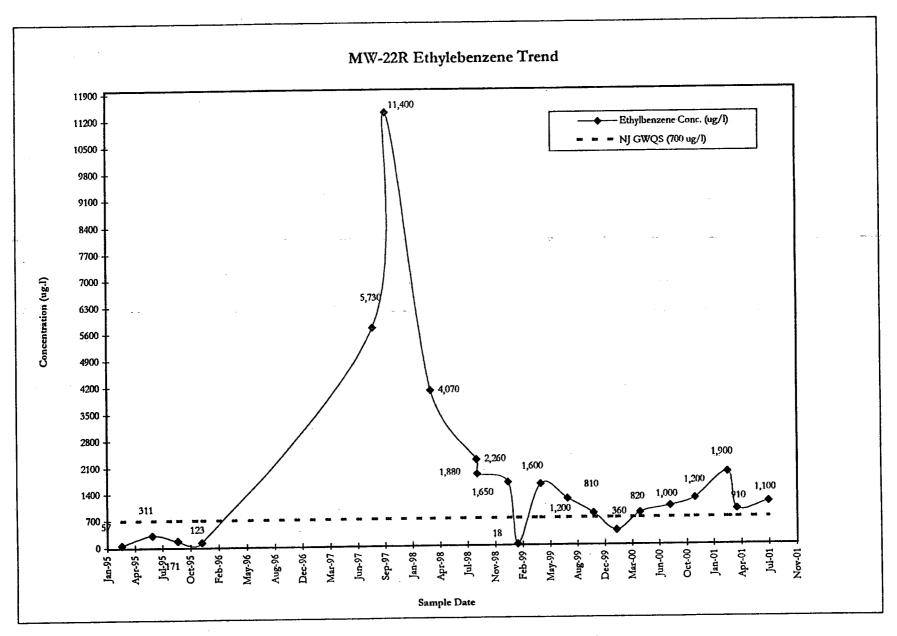
Well ID	MW22
Depth to Water From TOC feet (before purging)	3.29
Depth to Water From TOC feet (after purging)	7.04
Depth to Water From TOC feet (before sampling)	4.41
Depth to Bottom From TOC feet	8.81
PID Reading from Well Casing (ppm)	0.0
pH before Purge	6.43
Temp. before Purge (°C)	17.4
Diss. Oxygen before Purge	0.76
(ppm) Cond. before Purge (umhos/cm)	223
Redox Potential (mV) before purge	-163
Water Volume in Well (gal.)	0.9 Peristaltic
Purge Method	Pump
Purge Start Time	12:59
Purge End Time	13:03
Purge Rate (gpm)	0.8
Volume Purged (gal.)	3
pH after Purge	6.53
Temp. after Purge (°C)	16.1
Diss. Oxygen after Purge (ppm)	0.53
Cond. after Purge (umhos/cm)	224
Redox Potential (mV) after purge	-163
pH after Sample	6.63
Temp. after Sample (°C)	15.0
Diss. Oxygen after Sampling (ppm)	0.69
Cond. after Sample (umhos/cm)	218
Redox Potential (mV) after sample	-157
Sampling Method	Teflon Bailer
Time of Sampling	13:09

Appendix D MW-22R & MW-25R Groundwater Concentration Trend Analysis

MW-22R BTEX and DEHP Concentration(s) Trend Analysis

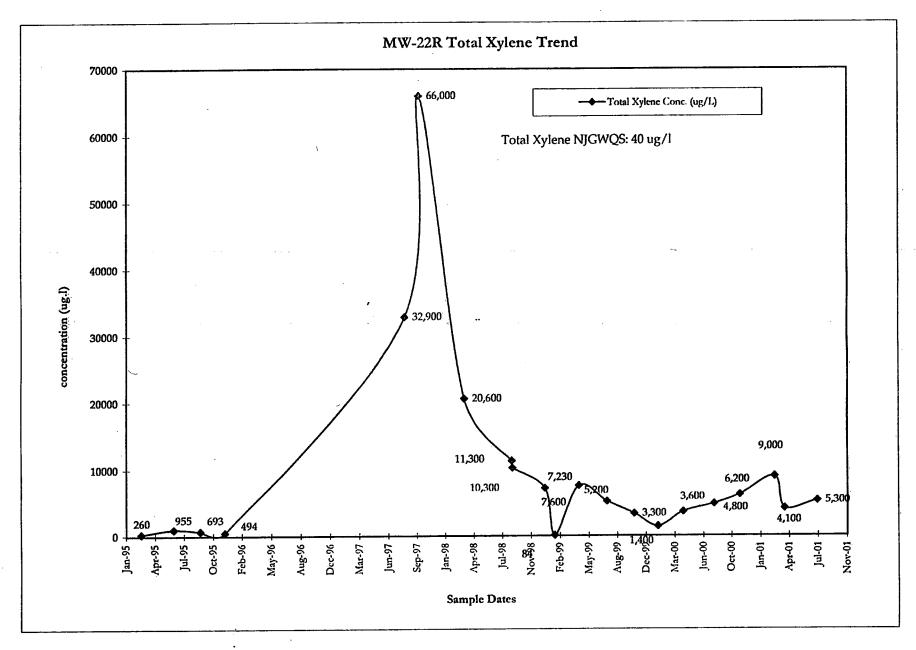
	ANALYTE											
Sampling Date(s)	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	DEHP (ug/L)							
21-Feb-95	ND	57	ND	260	6500							
13-Jun-95	ND	311	ND	955	380							
13-Sep-95	ND	171	ND	693	NS							
07-Dec-95	ND	123	ND	494	320							
14-Aug-97	ND	5,730	ND	32,900	7,500							
03-Oct-97	ND	11,400	348	66,000	NS							
12-Mar-98	ND	4,070	348	20,600	NS							
26-Aug-98	ND	2,260	ND	11,300	5,800							
28-Aug-98	ND	1,880	ND	10,300	NS							
18-Dec-98	ND -	1,650	ND	7,230	1,100							
21-Jan-99	ND	18	ND	84	NS							
15-Apr-99	ND	1,600	ND	7,600	670							
22-Jul-99	ND	1,200	ND	5,200	NS							
25-Oct-99	ND	810	ND	3,300	1,200							
17-Jan-00	ND	360	ND	1,400	NS							
13-Apr-00	ND	820	ND	3,600	92							
31-Jul-00	ND	1,000	ND	4,800	NS							
30-Oct-00	ND	1,200	ND	6,200	5,100							
27-Feb-01	ND	1,900	ND	9,000	NS							
02-Apr-01	ND	910	ND	4,100	2,400							
24-Jul-01	ND	1,100	ND	5,300	8,200							
NJGWQS (ug/l)	1	700 350	1000	40 20	36 30							

MW-22R CONTAMINANT OF CONCERN

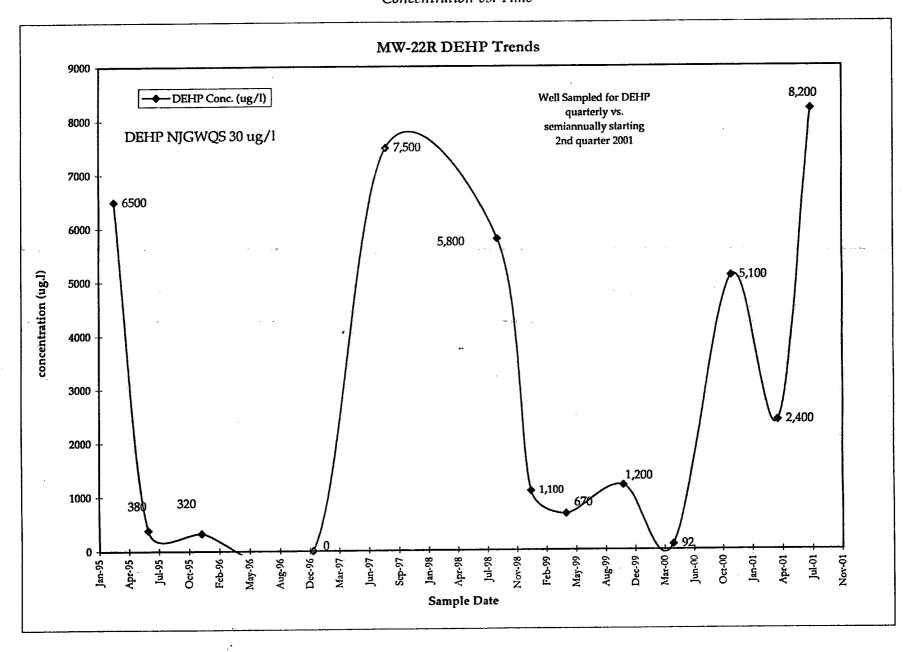


MW-22R

CONTAMINANTS OF CONCERN



MW-22R Contaminants of Concern Concentration vs. Time



MW-25R BTEX and DEHP Concentration(s) Trend Analysis

Sampling Date(s) 11 3	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylence (ug/L)	DEHP (ug/L)
01-Apr-95	ND	ND	ND	ND	1.6
01-Jul-95	ND	ND	ND	ND	NS
07-Dec-95	ND	ND	ND	ND	- 68
17-Sep-96	ND	0.34	ND	2,2	NS
12-Dec-96	ND	ND	ND	ND	ND
01-Jan-97	ND	ND	ND	ND	NS
01-Apr-97	ND	13.5	ND	89	63
01-Jul-97	ND	4.1	ND	30.7	NS
12-Mar-98	ND	0.33	ND	1.5	NS
01-Apr-98	ND	ND	ND	ND	5.3
28-Aug-98	-ND	ND.	ND	ND .	NS -
18-Dec-98	ND	ND	ND	ND	1.9
21-Jan-99	ND	ND	ND	ND	ND
15-Apr-99	ND	ND	ND	14	ND
22-Jul-99	ND	0.39	ND	1.4	9.6
25-Oct-99	ND	ND	ND	ND	ND
17-Jan-00	ND	ND	ND	ND	ND
13-Apr-00	ND	ND	ND	ND	ND
31-Jul-00	ND	ND	ND	ND	ND
30-Oct-00	ND	0.33	ND	1.1	3.4
27-Feb-01	ND	ND	ND	ND	1.9
02-Apr-01	ND	ND	ND	ND	1.4
24-Jul-01	ND	ND	ND	ND	0.5
NJGWQS (ug/l) ROD Discharge Criteria (ug/l)	NA NA	700 350	1000	40 20	30 30

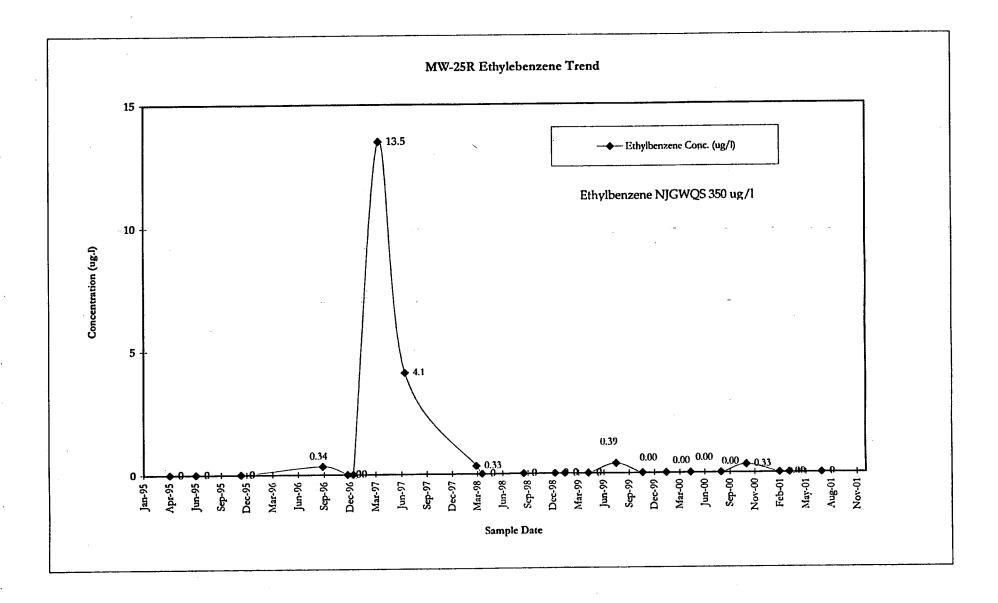
NOTE

Concentrations in hold exceed both the ROD discharge criteria and NIDEP GWU

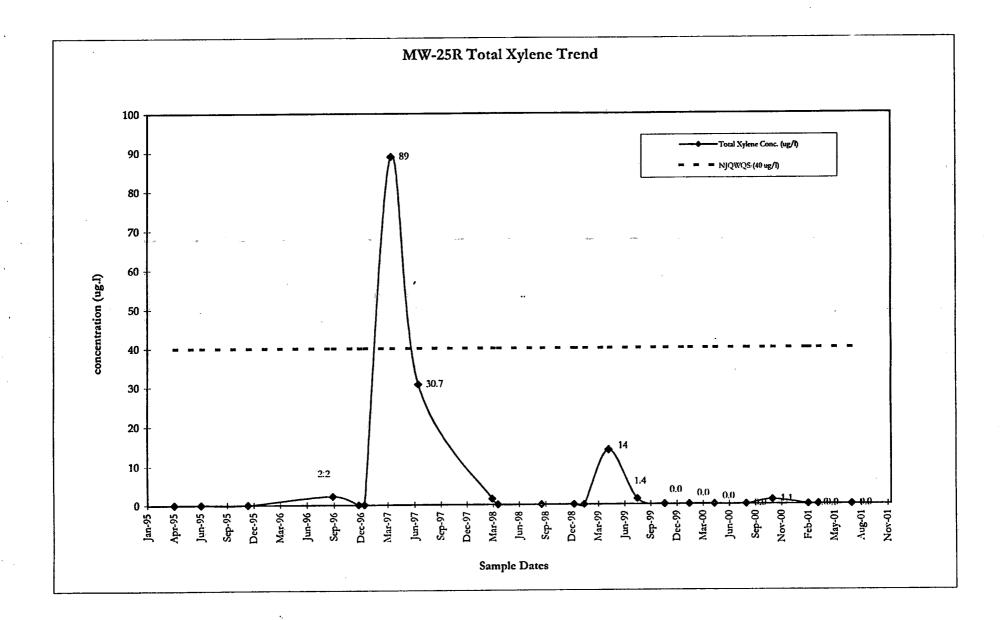
NID at Not described above method desection limits

NS = Not Sungain

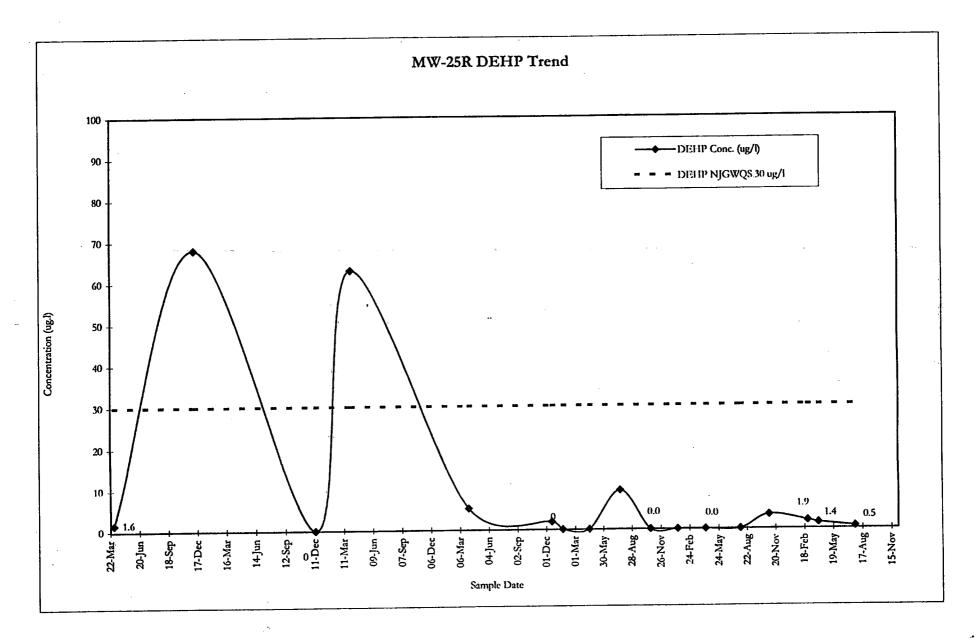
MW-25R CONTAMINANT OF CONCERN



MW-25R CONTAMINANTS OF CONCERN



MW-25R CONTAMINANT OF CONCERN



Appendix E Laboratory Report Severn Trent Services, STL Edison

08/23/2001

Residuals Management Technologies, Inc. 222 South Riverside Plaza Suite 280 Chicago, IL 60606

Attention: Mr Nick Clevett



STL Edison 777 New Durham Road Edison, NJ 08817

Tel: 732-549-3900 Fax: 732-549-3679 www.stl-inc.com

Laboratory Results Job No. N007 - L.E. Carpenter

Dear Mr Clevett:

Enclosed are the results you requested for the following sample(s) received at our laboratory on July 24, 2001.

Lab No.	Client ID	Analysis Required
290271	Trip_Blank	bis(2-Ethylhexyl)phthalate
290272	Field_Blank	BTEX (GC) bis(2-Ethylhexyl)phthalate
290273	MW-15s	BTEX (GC)
290274	MW-15I	BTEX (GC)
290275	MW-11DR	bis(2-Ethylhexyl)phthalate
290276	MW-4	BTEX (GC)
290277	MW-14I	BTEX (GC)
290278	MW-22	BTEX (GC)
290279	MW-25	BTEX (GC) bis(2-Ethylhexyl)phthalate
290280	MW-21	BTEX (GC) bis(2-Ethylhexyl)phthalate





STL Edison 777 New Durham Road Edison, NJ 08817

Tel: 732-549-3900 Fax: 732-549-3679 www.stl-inc.com

Laboratory Results

Job No. N007 - L.E. Carpenter (cont'd)

Lab No.

Client ID

Analysis Required

290281

MW-25D

bis(2-Ethylhexyl)phthalate

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Paul Simms, at (732) 549-3900.

Very Truly Yours,

Michael J. Urban Laboratory Director



STL Edison is a part of Severn Trent Laboratories, Inc.

Analytical Results Summary	1
Chain of Custody Laboratory Chronicles Methodology Review Data Reporting Qualifiers Non-Conformance Summary	16 22 25 29 31
Results Summary and Chromatograms Method Blank Results Summary Calibration Summary Surrogate Compound Recovery Summary Spike Recovery Summary	34 34 51 61 80 82
GC/ MS Forms and Data (Semivolatiles) Results Summary and Chromatograms Tuning Results Summary MS/MSD and Blank Results Summary Calibration Summary Surrogate Compound Recovery Summary Spike Recovery Summary Internal Standard Area and RT Summary	84 112 130 138 151 153 156
This is the Last Dage of the Document	161

Analytical Results Summary

Client ID: Field_Blank Site: L.E. Carpenter

Lab Sample No: 290272

Lab Job No: N007

Date Sampled: 07/24/01 Date Received: 07/24/01 Date Analyzed: 07/31/01 GC Column: DB624 Instrument ID: VOAGC2.i Lab File ID: hpid5030.d

Matrix: WATER Level: LOW

Purge Volume: 5.0 m Final Volume: 0.0 mL $5.0 \, \mathrm{ml}$

Dilution Factor:

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: uq/l</u>
Benzene	ND	0.28
Toluene	ND	0.26
Ethylbenzene	ND	0.26
Xylene (Total)	ND	0.25

Client ID: MW-15s Site: L.E. Carpenter

Lab Sample No: 290273 Lab Job No: N007

Date Sampled: 07/24/01 Date Received: 07/24/01 Date Analyzed: 07/31/01 GC Column: DB624 Instrument ID: VOAGC2.i

Lab File ID: hpid5031.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 m
Final Volume: 0.0 mL 5.0 ml

Dilution Factor:

<u>Parameter</u>	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: ug/l</u>
Benzene	ND	0.28
Toluene	ND	0.26
Ethylbenzene	ND	0.26
Xylene (Total)	ND	0.25

Client ID: MW-15i Site: L.E. Carpenter Lab Sample No: 290274 Lab Job No: N007

Date Sampled: 07/24/01 Date Received: 07/24/01 Date Analyzed: 07/31/01 GC Column: DB624

Instrument ID: VOAGC2.i

Lab File ID: hpid5032.d

Matrix: WATER Level: LOW

Purge Volume: 5.0 ml Final Volume: 0.0 mL

Dilution Factor:

1.0

<u>Parameter</u>	1 17 1 1 1 11	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: uq/l</u>
Benzene		ND	0.28
Toluene		ND	0.26
Ethylbenzene		ND	0.26
Xylene (Total)		ND	0.25

Client ID: MW-4

Site: L.E. Carpenter

Lab Sample No: 290276 Lab Job No: N007

Date Sampled: 07/24/01 Date Received: 07/24/01 Date Analyzed: 07/31/01 GC Column: DB624 Instrument ID: VOAGC2.i Lab File ID: hpid5033.d

Matrix: WATER

Level: LOW
Purge Volume: 5.0 m
Final Volume: 0.0 mL
Dilution Factor:

Parameter	ì	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: ug/l</u>
Benzene		ND	0.28
Toluene		ND	0.26
Ethylbenzene		0.52	0.26
Xylene (Total)		2.5	0.25

Client ID: MW-14I Site: L.E. Carpenter Lab Sample No: 290277 Lab Job No: N007

Date Sampled: 07/24/01 Date Received: 07/24/01

Date Analyzed: 08/01/01 GC Column: DB624 Instrument ID: VOAGC2.i Lab File ID: hpid5034.d Matrix: WATER
Level: LOW
Purge Volume: 5.0 m
Final Volume: 0.0 mL

Dilution Factor:

Parameter	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: ug/l</u>
Benzene	ND	0.28
Toluene	ND	0.26
Ethylbenzene	ND	0.26
Xylene (Total)	ND	0.25

Client ID: MW-22 Site: L.E. Carpenter Lab Sample No: 290278

Lab Job No: N007

Date Sampled: 07/24/01 Date Received: 07/24/01 Date Analyzed: 08/01/01 GC Column: DB624 Instrument ID: VOAGC2.i

Matrix: WATER Level: LOW

Purge Volume: 5.0 Final Volume: 0.0 mL

Lab File ID: hpid5057.d

Dilution Factor:

100.0

Parameter	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: ug/l</u>
Benzene	ND	.28
Toluene	ND	26
Ethylbenzene	1100	26
Xylene (Total)	5300	25

Client ID: MW-25 Site: L.E. Carpenter Lab Sample No: 290279 Lab Job No: N007

Date Sampled: 07/24/01 Date Received: 07/24/01 Date Analyzed: 08/02/01 GC Column: DB624 Instrument ID: VOAGC2.i

Matrix: WATER Level: LOW

Purge Volume: 5.0 m Final Volume: 0.0 mL 5.0 ml

Lab File ID: hpid5065.d

Dilution Factor:

<u>Parameter</u>	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: ug/l</u>
Benzene	ND	0.28
Toluene	ND	0.26
Ethylbenzene	ND	0.26
Xylene (Total)	ND	0.25

Client ID: MW-21 Site: L.E. Carpenter

Lab Sample No: 290280 Lab Job No: N007

Date Sampled: 07/24/01 Date Received: 07/24/01 Date Analyzed: 08/02/01 GC Column: DB624 Instrument ID: VOAGC2.i

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL

Lab File ID: hpid5066.d

Dilution Factor:

Parameter	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: ug/l</u>
Benzene Toluene Ethylbenzene	ND ND ND ND	0.28 0.26 0.26 0.25
Xylene (Total)	ND	0.25

Client ID: Trip Blank Site: L.E. Carpenter

Lab Sample No: 290271 Lab Job No: N007

Date Sampled: 07/24/01 Date Received: 07/24/01 Date Extracted: 07/26/01 Date Analyzed: 07/30/01

Matrix: WATER Level: LOW

Sample Volume: 980 ml Extract Final Volume: 2.0 ml

GC Column: DB-5
Instrument ID: BNAMS8.i
Lab File ID: aa5831.d

Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

Method Detection Limit Analytical Result Units: uq/l Units: uq/l <u>Parameter</u> 0.4 ND bis(2-Ethylhexyl)phthalate

Client ID: Field Blank Site: L.E. Carpenter

Lab Sample No: 290272 Lab Job No: N007

Date Sampled: 07/24/01 Date Received: 07/24/01 Date Extracted: 07/26/01 Matrix: WATER Level: LOW

Date Analyzed: 07/30/01

Sample Volume: 950 ml Extract Final Volume: 2.0 ml

GC Column: DB-5

Dilution Factor: 1.0

Instrument ID: BNAMS8.i Lab File ID: aa5832.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

Parameter

Analytical Result Units: uq/l

Method Detection Limit Units: uq/l

bis(2-Ethylhexyl)phthalate

ND

0.5

Client ID: MW-11DR Site: L.E. Carpenter Lab Sample No: 290275 Lab Job No: N007

Date Sampled: 07/24/01 Date Received: 07/24/01 Date Extracted: 07/26/01 Date Analyzed: 07/30/01

Matrix: WATER Level: LOW

Sample Volume: 990 ml Extract Final Volume: 2.0 ml

GC Column: DB-5 Instrument ID: BNAMS8.i

Dilution Factor: 1.0

Lab File ID: aa5833.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

Method Detection Analytical Result Limit Units: uq/l Units: uq/l Parameter

bis(2-Ethylhexyl)phthalate ND 0.4 Client ID: MW-25 Site: L.E. Carpenter Lab Sample No: 290279 Lab Job No: N007

Date Sampled: 07/24/01 Date Received: 07/24/01 Date Extracted: 07/26/01 Date Analyzed: 07/30/01 GC Column: DB-5

Matrix: WATER Level: LOW

Sample Volume: 980 ml Extract Final Volume: 2.0 ml

Instrument ID: BNAMS8.i

Dilution Factor: 1.0

Lab File ID: aa5834.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

Method Detection Analytical Result Limit <u>Parameter</u> <u>Units: uq/l</u> Units: uq/l bis(2-Ethylhexyl)phthalate 0.5 0.4

Client ID: MW-21 Site: L.E. Carpenter

Lab Sample No: 290280 Lab Job No: N007

Date Sampled: 07/24/01 Date Received: 07/24/01 Date Extracted: 07/26/01 Date Analyzed: 07/31/01

Matrix: WATER Level: LOW

Sample Volume: 970 ml Extract Final Volume: 2.0 ml

GC Column: DB-5 Instrument ID: BNAMS8.i

Dilution Factor: 1.0

Lab File ID: aa5835.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

Method Detection Analytical Result Limit Parameter Units: uq/l Units: uq/l bis(2-Ethylhexyl)phthalate 0.9 0.5

Client ID: MW-25D Site: L.E. Carpenter Lab Sample No: 290281 Lab Job No: N007

Date Sampled: 07/24/01 Date Received: 07/24/01 Date Extracted: 07/26/01 Date Extracted: 07/26/01 Date Analyzed: 07/31/01 GC Column: DB-5 Instrument ID: BNAMS8.i Lab File ID: aa5836.d Matrix: WATER Level: LOW

Sample Volume: 980 ml Extract Final Volume: 2.0 ml

Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

Method Detection Analytical Result Units: uq/l Limit <u>Parameter</u> Units: uq/l bis(2-Ethylhexyl)phthalate 1.2 0.4

General Information

Chain of Custody

N007

STL EDISON

Field Services SJO

777 New Durham Road Edison, New Jersey 08817

CHAIN OF CUSTODY / ANALYSIS REQUEST

Phone: (732) 549-3900 Fax: (732) 549-3	679																PAGE'OF
Name (for report and invoice)	- 0.		Sampler	s Name (Printed)				Projec							
Company P.O. #				F. Tangrid					LE Corpenter State (Location of site): NJ: NY: Other:							er	
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KMT, Inc.			ļ						Regu	latory	Progra	am:					
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Field Blant			1425		. 3	×	. ×		_								290272
MW15s			1010	7	3	X											290273
MULST			1004		3	X											290274
mw//DR			1152				X										290275
mwy			1340		3	X								,	,		290276
MW14I			1431		3	×											290277
mwsz			1430		3	X											290278
MW 25			1434		4	X	X			·							290219
mwai		J	1510	٨	4	X	X								,		296230
Preservation Used: $1 = ICE$, $2 = HCI$, 3	I = H2SO4,	4 = HNO ₃	, 5 = Nac	ЭН	Soil:												
6 = Other	, 7 = Of	ther			Water.												
Special Instructions													Wa	ater M	etals	iltered	d (Yes/No)?
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STL EDISON

Field Services SJO

777 New Durham Road Edison, New Jersey 08817 Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

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Sample Identification	Date	Time	Matrix	No. of. Cont.	70		1									Sample Numbers
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Preservation Used: 1 = ICE, 2 = HCl, 3	3 = H.SO. A = HNO.	5 = Nat	OH.	Soil:		i	i -									
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	rsey (12028), Ne	w York	(11452),	Penr	sylv	ania (68-52	2),	Conn	ecticu	ıt (PH	-020	0),	Rhoo	ie Isla	and (132).

Monitoring Well Data

Client: Residual Management Tech.
Project: LE Carpenter
Date Sampled: 7/24/01
Job No.: <u>N007</u>
Name of Analyst: Richard Toogood
Names & Signatures of Samplers: Richard Toogood
M. Wesolowski

Monitoring Well Data

Client: Residual Management Tech.

Project: LE Carpenter

Job No: N007

Date Sampled: 7/24/01 Analyst: R. Toogood

		,						
Well ID	MW15s	MW151	MW11d	MW4	MW14I	MW22	MW25	MW21
Depth to Water From TOC								
feet (before purging)	11.31	11.20	5.87	7.30	3.33	3.39	2.80	4.15
Depth to Water From TOC	44.55	44.00	0.04	7.04				
feet (after purging) Depth to Water From TOC	11.35	11.23	6.01	7.94	3.38	6.56	6.45	4.25
feet (before sampling)	11.31	11.21	5.89	7.32	3.34	3,61	3.93	4.15
Depth to Bottom From TOC	1			1.02	0.04	0.01	0.00	7.13
feet	19.48	40.14	161.25	18.31	43.32	8.81	9.11	14.68
PID Reading from Well								
Casing (ppm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
pH before Purge	6.05	6.30	6.13	6.51	6.45	6.37	6.77	7.26
pri belore i dige	0.03	0.50	0,13	0.31	6.45	0.31	0.77	7.36
Temp. before Purge (°C)	21.4	19.4	26.5	21.4	22.3	19.6	22.2	21.1
Diss. Oxygen before Purge						1-3-5		
(ppm)	4.31	2.81	3.39	0.95	3.56	0.84	1.71	3.13
Cond. before Purge								
(umhos/cm) Redox Potential (mV) before	226	250	338	353	135	177	180	195
purge	216	193	35	-172	-128	-153	-159	-85
		100			120	- 700	-100	-00
Water Volume in Well (gal.)	5.33	4.72	25.35_	1.79	6.53	0.89	1.03	6.87
	Peristaltic	Peristaltic		Peristaltic	Peristaltic	Peristaltic	Peristaltic	Peristaltic
Purge Method	Pump	Pump	Pump	Pump	Pump	Pump	Pump	Pump
Purge Start Time	9:37	9:41	10:24	12:25	12:52	14:00	14:06	44.45
Turge Start Time	9.31	3.41	10:24	13:25	13:53	14:00	14:06	14:45
Purge End Time	10:00	9:57	11:47	13:31	14:15	14:04	14:11	15:05
					1.1,10			10.00
Purge Rate (gpm)	0.7	0.9	0.9	1.0	0.9	0.8	0.8	1.1
V-1 Promod (1)				_				
Volume Purged (gal.)	16	15		6	20	3	3	21
pH after Purge	6.28	6.12	8.17	6.51	7.26	6.48	6.80	7.29
pri ditor i dige	0.20	0.12	0,17	0.01	1.20	0.40	0.00	1.29
Temp. after Purge (°C)	16.4	17.2	18.1	16.7	17.6	21.6	19.8	16.5
Diss. Oxygen after Purge							7	
(ppm)	2.86	2.54	4.13	0.93	3.19	0.65	1.01	1.18
Cond. after Purge								
(umhos/cm)	264	343	257	209	127	160	160	181
Redox Potential (mV) after purge	42	400	40	4 č4	400	450	100	
purge	-12	-109	10	-151	-106	-152	-109	-28
pH after Sample	6.70	6.52	9.09	6.45	7.49	6.70	6.81	7.43
		7.02	7.00	<u> </u>		5.,0	J.01	, , 43
Temp. after Sample (°C)	18.3	17.9	18.8	16.9	17.7	18.8	19.2	17.9
Diss. Oxygen after Sampling	*							
(ppm)	3.44	4.50	4.93	2.10	4.34	1,33	5.90	1.86
Cond. after Sample (umhos/cm)	470	220	340	400	400		400	455
Redox Potential (mV) after	172	238	316	199	133	146	138	180
sample	73	15	-1	-139	-80	-145	-52	-15
	Teflon	Teflon	Teflon	Teflon	Teflon	Teflon	-52 Teflon	Teflon
Sampling Method	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer
				and the second s				
Time of Sampling	10:10	10:04	11:52	13:40	14:21	14:30	14:38	15:10

Water Levels L.E. Carpenter Site Date: 7/24/01

		Depth to
Well ID	Product	Water
MW-1 (R)	10.02	11.36
MW-2 (R)	N	7.11
MW-3	7.38	7.51
MW-4	N	7.30
MW-6 (R)	N	7.12
MW-8	N	3.51
MW-9	N	4.82
MW-11S	7.89	12.95
MW-11IR	N	8.13
MW-11DR	N	5.87
MW-12R	N	9.03
MW-13S	N	5.98
MW-13(R)	N	5.60
MW-131	N	5.58
MW-14S	N	3.78
MW-141	N	3.33
MW-15S	N	11.31
MW-151	N.	11.20
MW-16S	N	8.52
MW-161	N	9.01
MW-17S	N	9.27
MW-18S	N	5.63
MW-18I	N	5.38
MW-19	N	12.47
MW-19-1	N	12.45
MW-19-2	N	12.34
MW-19-3	N	13.20
MW-19-4	N	11,24
MW-19-5	N	12.39
MW-19-6	N	10.03
MW-19-7	N	9.27
MW-19-8	N	9.63
MW-20	N	10.57
MW-21	N	4.15
MW-22 (R)	N	3,39
MW-23	N	4.62
MW-25 (R)	N	2.80
MW-26	N	8.06
RW-1	11.93	12.12
RW-2	N	6.69
RW-3	N	6.89
CW-1	N	7.73
CW-3	N	8.05
GEI-1I	N	5.06
GEI-2S	.N	11.31
GEI-2I	N	11.51
GEI-3I	N	13.75
WP-A1	10.29	11.34
WP-A2	NA	NA

	Danib An
	Depth to
	Water
	10.07
	12.69
N.	12.51
11.91	14.12
9.72	13.51
12.22	14.34
13.87	16.16
N	7.49
N	6.99
N	7.60
	8.96
	5.94
	7.03
CORNERS NO. CONT.	5.02
	7.55
	8.26
	8.90
	7.15
	8.07
	1.36
	0.88
	1.38
	1.32
	0.64
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	11.91 9.72 12.22 13.87 N N N N N N N N N N N N N

Well ID	Product	Depth to Water
EFR-22	•	•
EFR-23		*
EFR-24	•	•
EFR-25	•	•
EFR-26	•	•
EFR-27	•	•
EFR-28	•	•

^{*} Measurements Collected by RMT on later date

Laboratory Chronicles

INTERNAL CUSTODY RECORD AND LABORATORY CHRONICLE STL Edison

777 New Durham Road, Edison, New Jersey 08817

Job No: NO07

Site: L.E. Carpenter

Client:

Residuals Management Technologies, Inc.

VOAGC

602

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
WATER					-1.1	14 -1.	-021
290272	7/24/2001	7/24/2001	ų ų		7/3/0	SYT K	7231
290273	7/24/2001	7/24/2001				. 1	1
290274	7/24/2001	7/24/2001					1.
290276	7/24/2001	7/24/2001			1 ,		
290277	7/24/2001	7/24/2001	1		8/1/01		
290278	7/24/2001	7/24/2001				1	
290279	7/24/2001	7/24/2001			8/2/01		
290280	7/24/2001	7/24/2001			ţ		

INTERNAL CUSTODY RECORD AND LABORATORY CHRONICLE STL Edison

777 New Durham Road, Edison, New Jersey 08817

Job No: NO07

Site: L.E. Carpenter

Client:

Residuals Management Technologies, Inc.

BNAMS

WATER - 625

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	OA Batch
290271	7/24/2001	7/24/2001	7.26-01	d _E	73001	A12	6519
290272	7/24/2001	7/24/2001		1	1	1	1
290275	7/24/2001	7/24/2001	.				- 1
290279	7/24/2001	7/24/2001	.				
290280	7/24/2001	7/24/2001		- 1	7-31-01	. }	
290281	7/24/2001	7/24/2001	ن ب	$oldsymbol{ au}$	1	1	١,

Methodology Review

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

- P Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)
- A Flame Atomic Absorption
- F Furnace Atomic Absorption
- CV Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method 200.7 and solid Method 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1 and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

71		st Method Furnace		Solid '	Test Method Furnace
Element	Flame 202.1	202.2		7020	
Aluminum				7040	7041
Antimony	204.1	204.2 206.2	•	70.40	7060
Arsenic	200 1	200.2		7080	7000
Barium	208.1	210 2		7090	7091
Beryllium	210.1	210.2			
Cadmium	213.1	213.2		7130	7131
Calcium	215.1			7140	
Chromium, Total	218.1	218.2		7190	7191
Chromium, (+6)	218.4	218.5		7197	7195
Cobalt	219.1	219.2		7200	7201
Copper	220.1	220.2		7210	
Iron	236.1	236.2		7380	
Lead	239.1	239.2		7420	7421
Magnesium	242.1	<u> </u>		7450	
Manganese	243.1	243.2		7460	
Nickel	249.1	249.2		7520	
Potassium	258.1			7610	
Selenium		270.2			7740
Silver	272.1	272.2		7760	
Sodium	273.1	'		7770	
Tin	283.1	283.2		7870	
Thallium	279.1	279.2		7840	7841
Vanadium	286.1	286.2		7910	7911
Zinc	289.1	289.2		7950	

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability - Method 1020A

Corrosivity - Water pH Method 9040B Soil pH Method 9045C

Reactivity - Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release

Toxicity - TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

Data Reporting Qualifiers

DATA REPORTING QUALIFIERS

- ND The compound was not detected at the indicated concentration.
 - J Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified detection limit but greater than zero. The concentration given is an approximate value.
 - B The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.
 - P For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.
 - * For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

Non-Conformance Summary

NON-CONFORMANCE SUMMARY

STL Edison Job Number:

N007

Volatile Organics Analysis:
All data conforms with method requirements; or
Analysis was not requested; or
Non-conformance for the specific samples listed is as follows:
See continuation page if checked ()
Base/Neutral and/or Acid Extractable Organics Analysis:
All data conforms with method requirements; or
Analysis was not requested ; or
Non-conformance for the specific samples listed is as follows:
See continuation page if checked ()
PCBs and/or Organochlorine Pesticides Analysis:
All data conforms with method requirements; or
Analysis was not requested; or
Non-conformance for the specific samples listed is as follows:
See continuation page if checked ()
Page 1 of
rage 1 or

Non-conformance Summary, Page 2 of STL Edison Job Number:
Metals Analysis:
All data conforms with method requirements; or Analysis was not requested; or Non-conformance for the specific samples listed is as follows:
See continuation page if checked ()
Total Petroleum Hydrocarbons Analysis:
All data conforms with method requirements; or Analysis was not requested; or Non-conformance for the specific samples listed is as follows:
See continuation page if checked ()
General Chemistry/Disposal Analysis:
All data conforms with method requirements; or Analysis was not requested; or Non-conformance for the specific samples listed is as follows:
See continuation page if checked ()
Signature of Laboratory Manager: Date: 8-23-0

08/24/2001

Residuals Management Technologies, Inc. 222 South Riverside Plaza Suite 280 Chicago, IL 60606

Attention: Mr Nick Clevett



STL Edison 777 New Durham Road Edison, NJ 08817

Tel: 732-549-3900 Fax: 732-549-3679 www.stl-inc.com

Laboratory Results Job No. N067 - L.E. Carpenter

Dear Mr Clevett:

Enclosed are the results you requested for the following sample(s) received at our laboratory on July 26, 2001.

Lab No.	Client ID	Analysis Required
290797	Trip_Blank	bis(2-Ethylhexyl)phthalate
290798	Field_Blank	bis(2-Ethylhexyl)phthalate
290799	MW-22R	bis(2-Ethylhexyl)phthalate

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Paul Simms, at (732) 549-3900.

Very Truly Yours,

Michael J. Urban Laboratory Director



Analytical Results Summary	1
General Information Chain of Custody Laboratory Chronicles Methodology Review Data Reporting Qualifiers Non-Conformance Summary	5 9 11 15 17
GC/ MS Forms and Data (Semivolatiles) Results Summary and Chromatograms Tuning Results Summary Method Blank Results Summary Calibration Summary Surrogate Compound Recovery Summary Spike Recovery Summary Internal Standard Area and RT Summary	20 20 35 54 62 75 77 80
This is the Last Page of the Document	85

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Analytical Results Summary

Client ID: Trip_Blank Site: L.E. Carpenter

Lab Sample No: 290797 Lab Job No: N067

Date Sampled: 07/26/01 Date Received: 07/26/01 Date Extracted: 07/31/01 Date Analyzed: 08/01/01 GC Column: DB-5 Instrument ID: BNAMS8.i Lab File ID: aa5853.d

Matrix: WATER Level: LOW

Sample Volume: 990 ml Extract Final Volume: 2.0 ml

Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

<u>Parameter</u>

Analytical Result Units: uq/l

Method Detection Limit Units: uq/l

bis(2-Ethylhexyl)phthalate

ND

0.4

Client ID: Field_Blank Site: L.E. Carpenter

Lab Sample No: 290798 Lab Job No: N067

Date Sampled: 07/26/01 Date Received: 07/26/01 Date Extracted: 07/31/01 Matrix: WATER Level: LOW

Sample Volume: 950 ml Extract Final Volume: 2.0 ml

Dilution Factor: 1.0

Date Analyzed: 08/01/01 GC Column: DB-5 Instrument ID: BNAMS8.i Lab File ID: aa5854.d

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

Method Detection Analytical Result Limit **Parameter** Units: ug/l Units: uq/l bis(2-Ethylhexyl)phthalate 1.2 0.5

Client ID: MW-22R Site: L.E. Carpenter

Lab Sample No: 290799 Lab Job No: N067

Date Sampled: 07/26/01 Date Received: 07/26/01 Date Extracted: 07/31/01

Matrix: WATER Level: LOW

Sample Volume: 980 ml Extract Final Volume: 2.0 ml

Date Analyzed: 08/02/01 GC Column: DB-5 Instrument ID: BNAMS8.i Lab File ID: aa5877.d

Dilution Factor: 50.0

SEMI-VOLATILE ORGANICS - GC/MS METHOD 625

Parameter

Analytical Result Units: uq/l

Method Detection Limit Units: uq/l

bis(2-Ethylhexyl)phthalate

8200

22

General Information

Chain of Custody

777 New Durham Road Edison, New Jersey 08817

	Field	Services	SJO
AIN OF CUSTODY / ANALYSIS DECLIEST			

Phone: (732) 549-3900 Fax: (732) 549-3679																PAGE _ OF _
Name (for report and invoice)		Sampler	s Name (Printed)	1			Site/P	roject	ldenti	ficatio	n	, -			,
Nicholas Clevett		K	S Name (Jan H												en kr
Company		P.O. #		•					(Loca			NJ:	M	NY:		Other:
KNI , Inc.								Regu	latory	Progra	am:					
Name (for report and invoice) Nicholas Clevett Company PMT, Inc. Address 222 S. Riverside Place City State Chicago / Society Phone Fax	50; K	Analysis T Standard Rush Char	ges Authoriz			ANALY	SIS REQUI	ESTED (ENTER 7	C BELOW	V TO IND	ICATE R	EQUEST	\mathcal{T}	7	LAB USE ONLY Project No:
Phone Fax		2 Week 1 Week Other	=													Job No:
Sample Identification	Date	Time	Matrix	No. of. Cont.	15	<u> </u>	L		_							Sample Numbers
Trip Blank	7/26/01	600	Am	1.	X											290797
Field Blunk		1307		1.=:	۴			=- =-						,		290798
MW ZZR	V	1309	y	1	>											290799
	· ·					ļ										
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·						,										
Preservation Used: 1 ≈ ICE, 2 = HCl, 3 = H₂SO₄,	4 = HNO₃,	5 = Na	OH	Soil:				-								
6 = Other, 7 = Ot	her			Water:	/											
Special Instructions												W	ater M	etals F	Filtered	d (Yes/No)?
Relinquished by Company			1	e / Time		Recei	ved by	,	1			_	Comp	any		j
1) A. (m. 570	;		7/26/	011/20	5 6	1)	J_{a}	(Х					5	1C
Relinquished by Company	,			e / Time		Rece	ved by						Comp	any		
2)				1		2)							ŀ			İ
Relinquished by Company			Dat	e / Time		Rece	ved by	,					Comp	any		
3)				1		3)										
Relinquished by Company	,		Dat	e / Time		Recei	ved by						Comp	any		
4)				1		4)										
Laboratory Certifications: New Jersey (1202	28), Ne	w York	(11452),	Penn	sylva	ania (6	8-522	2),	Conn	ecticu	t (PH	-020	0),	Rhod	le Isla	and (132).

Client: Residual Management Tech.

Project: LE Carpenter

Job No: N067

Date Sampled: 7/26/01

Analyst: R. Toogood

Well ID	MW22
Depth to Water From TOC	
feet (before purging)	3.29
Depth to Water From TOC	
feet (after purging)	7.04
feet (after purging) Depth to Water From TOC	
feet (before sampling)	4.41
Depth to Bottom From TOC	
feet	8.81
PID Reading from Well	
Casing (ppm)	0.0
Casing (ppin)	0.0
pH before Purge	6.43
hi i neiore Lorde	6.43
T b-f B (%)	4-4
Temp. before Purge (°C)	17.4
Diss. Oxygen before Purge	l
(ppm)	0.76
(ppm) Cond. before Purge	
(umhos/cm)	223
Redox Potential (mV) before	
purge	-163
Water Volume in Well (gal.)	0.9
Tracer verante in viven (gail.)	Peristaltic
Purge Method	
rarge internal	Pump
Burns Start Time	42.50
Purge Start Time	12:59
	40.00
Purge End Time	13:03
Purge Rate (gpm)	0.8
Volume Purged (gal.)	3
pH after Purge	6.53
Temp. after Purge (°C)	16.1
Diss. Oxygen after Purge	
(ppm)	0.53
Cond. after Purge	1
(umhos/cm)	224
Redox Potential (mV) after	227
, ,	100
purge	-163
	Į.
pH after Sample	6.63
Temp. after Sample (°C)	15.0
Diss. Oxygen after Sampling	
(ppm)	0.69
Cond. after Sample	
(umhos/cm)	218
Redox Potential (mV) after	210
sample	-157
1	Teflon
Sampling Method	Bailer
Time of Sampling	13:09

Monitoring Well Data

Cheffi: Residual Mariageriterit (ech.
Project: LE Carpenter
Date Sampled: 7/26/01
Job No.: N067
Name of Analyst: Richard Toogood
*
Names & Signatures of Samplers: Richard Toogood
M. Wesolowski

Laboratory Chronicles

INTERNAL CUSTODY RECORD AND LABORATORY CHRONICLE STL Edison

777 New Durham Road, Edison, New Jersey 08817

Job No: NO67

Site: L.E. Carpenter

Client:

Residuals Management Technologies, Inc.

BNAMS

WATER - 625

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
290797	7/26/2001	7/26/2001	73/41	cir	8-1-01	AR	6531
290798	7/26/2001	7/26/2001	1		Į	1.	
290799	7/26/2001	7/26/2001	Ţ	7	8-2-01	J	

Methodology Review

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

- P Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)
- A Flame Atomic Absorption
- F Furnace Atomic Absorption
- CV Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method 200.7 and solid Method 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1 and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

	Water Te	st Method	Solid	Test Method
Element	Flame	Furnace	Flame	Furnace
Aluminum	$\overline{202.1}$	202.2	7020	
Antimony	204.1	204.2	7040	7041
Arsenic		206.2		7060
Barium	208.1		7080	
Beryllium	210.1	210.2	70 90	7091
Cadmium	213.1	213.2	7130	7131
Calcium	215.1		7140	
Chromium, Total	218.1	218.2	7190	7191
Chromium, (+6)	218.4	218.5	7197	7195
Cobalt	219.1	219.2	720 0	7201
Copper	220.1	220.2	7210	
Iron	236.1	236.2	7380	
Lead	239.1	239.2	7420	7421
Magnesium	242.1		7450	
Manganese	243.1	243.2	7460	
Nickel	249.1	249.2	7520	
Potassium	258.1		7610	
Selenium		270.2		7740
Silver	272.1	272.2	7760	
Sodium	273.1		7770	
Tin	283.1	283.2	7870	
Thallium	279.1	279.2	7840	7841
Vanadium	286.1	286.2	7910	7911
Zinc	289.1	289.2	7950	

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability - Method 1020A

Corrosivity - Water pH Method 9040B Soil pH Method 9045C

Reactivity - Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release

Toxicity - TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

Data Reporting Qualifiers

DATA REPORTING QUALIFIERS

- ND The compound was not detected at the indicated concentration.
 - J Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified detection limit but greater than zero. The concentration given is an approximate value.
 - B The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.
 - P For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.
 - * For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

Non-Conformance Summary

NON-CONFORMANCE SUMMARY

STL Edison Job Number: No67
Volatile Organics Analysis:
All data conforms with method requirements; or Analysis was not requested; or Non-conformance for the specific samples listed is as follows:
See continuation page if checked ()
Base/Neutral and/or Acid Extractable Organics:
All data conforms with method requirements; or Analysis was not requested; or Non-conformance for the specific samples listed is as follows:
See continuation page if checked ()
PCBs and/or Organochlorine Pesticides:
All data conforms with method requirements; or Analysis was not requested; or Non-conformance for the specific samples listed is as follows:
See continuation page if checked ()
Page 1 of 2

Non-conformance Summary, Page 2 of 2 STL Edison Job Number: No67
Metals Analysis:
All data conforms with method requirements; or Analysis was not requested; or Non-conformance for the specific samples listed is as follows:
See continuation page if checked ()
Total Petroleum Hydrocarbons:
All data conforms with method requirements; or Analysis was not requested; or Non-conformance for the specific samples listed is as follows:
Coo continuation made if the about 1
See continuation page if checked ()
General Chemistry/Disposal Parameters:
All data conforms with method requirements; or Analysis was not requested; or Non-conformance for the specific samples listed is as follows:
See continuation page if checked ()
Signature of Laboratory Manager: Date: Seloi